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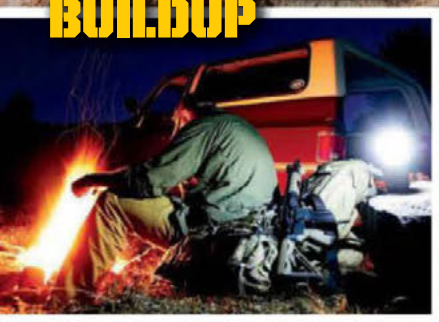


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5"	Complete Kit w/2.2 Rear Shocks	\$999.95
7.5"	Complete Kit w/2.2 Rear Shocks	\$999.95

#### 1999-2006 1500 PU 4WD

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4"	Complete NTD Kit w/2.0 Shocks	\$999.95
6"	Complete NTD Kit w/2.0 Shocks	\$999.95

#### 2011-2015 2500 HD PU 4WD

1.5-2"	Front Leveling Torsion Keys	\$159.95
7.5"	Complete Kit w/2.0 Shocks	\$1399.95

### DODGE



#### 2009-2014 1500 Ram PU 4WD

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3.75"	Combo Kit (2.5" Susp/1.25" Body)*	\$249.95
4"	Complete Kit w/2.2 Rear Shocks	\$1249.95
6"	Complete Kit w/2.2 Rear Shocks	\$1399.95

#### 2014 2500 Ram PU 4WD

2.5"	Front Leveling Coil Spacers	\$99.95
5"	Complete Kit w/Radius Arms	\$999.95

#### 2003-2013 2500/3500 Ram PU 4WD

2"	Front Leveling Coils	\$179.95
2.5"	Front Leveling Spacers	\$99.95
5"	Complete Kit w/2.0 Shocks	\$699.95
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5"	Long Arm Kit w/2.0 Shocks	\$1299.95

\*2009-2012 models ONLY!

### FORD



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6"	Complete Kit w/2.2 Rear Shocks	\$1299.95

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4"	X-series Kit w/X-Flex arms	\$999.95
6"	X-series Kit w/X-Flex arms	\$1049.95
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6"	Long Arm Suspension	\$1649.95

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4.5"	Long Arm Suspension*	\$1399.95
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\*Includes new rear leaf springs

\*2012-2014 models add \$190 to long arm kit cost

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4"	X-series w/X-Flex Arms	\$799.95 - \$749.95
4"	Long Arm Suspension	\$1499.95

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### NISSAN



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### TOYOTA



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2.5-3"	Leveling Lift Kit w/rear blocks	\$169.95
4.5"	Complete Kit w/2.0 Rear Shocks	\$1249.95
6"	Complete Kit w/2.0 Rear Shocks	\$1299.95

#### 1999-2006 Tundra 4WD

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#### 2005-2014 Tacoma 4WD

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4"	Complete Kit w/2.0 Rear Shocks	\$999.95
6"	Complete Kit w/2.0 Rear Shocks	\$999.95

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2"	97-03 F-150 (2WD)	\$129.95
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2.5"	99-04 F-250/350 SD (4WD)	\$309.95
2.5"	03-13 Expedition (4WD/2WD)	\$169.95
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### TOYOTA MODELS

2.5-3"	07-14 Tundra (4WD)	\$129.95
2.5-3"	07-14 Tundra (2WD)	\$99.95
2.5"	99-06 Tundra (4WD)	\$269.95
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### BEST BUYS:

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Good gifts for the penny-pinching giver

#### 34 BEST BUYS: \$100-\$250

Off-roading gifts you can afford

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Major value for modest coin

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**ON THE COVER:** Ace free-lancer, Harry Wagner, avoided a night in the wet burlap bag of shame by snatching a beautiful cover shot of Zach Oberlander's '71 Bronco.

# FOURWHEELER



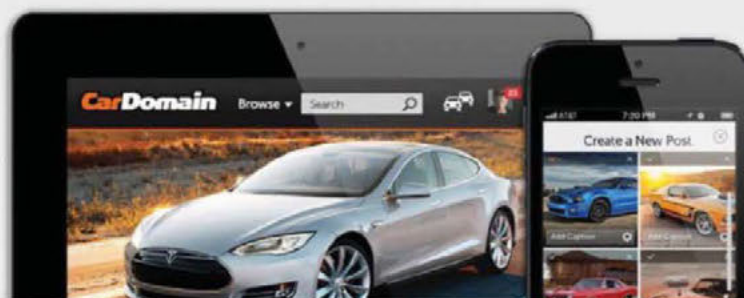
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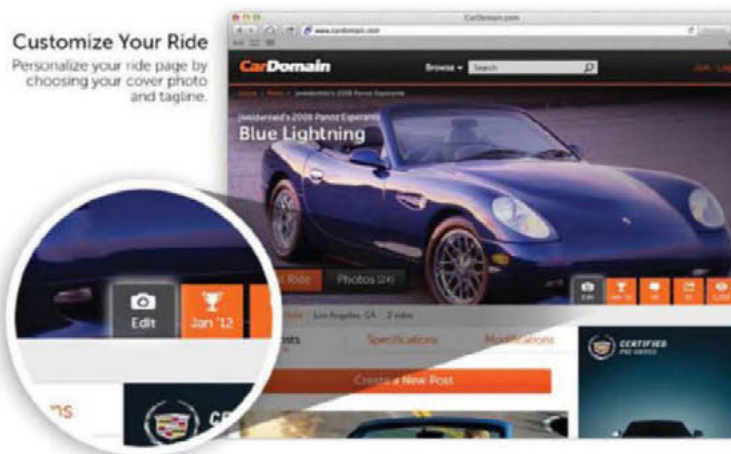


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## ➔ FIRING ORDER



# The White Truck

Everybody needs to own a white truck at some point in their life. Mind you, when I say white truck, I'm not talking about the color. I couldn't give a rat turd about that. I'm talking about the lowest-optioned, barest-boned, utterly utilitarian beast you can buy. It's gotta have a purposeful drivetrain, zero amenities, and tank-like reliability. In short, a fleet service vehicle. Almost every one I've seen with zero punches on the option card has been sprayed white from the factory, so I've always called 'em white trucks, no matter what color they're actually painted.



I owned an almost-white truck once. The paint was white, so by my bent logic, it was a white almost-white truck. Mine was an '89 F-250 4x4 Lariat. It had a fuel-injected 460ci engine, C6 transmission, BW1356 T-case, a Sterling 10.25-inch rear, and the Dana 44-based TTB front suspension. I didn't mind the puny TTB 'cause my plan was always to stab in a Dana 60 from a similar-year F-350. I put a Banks PowerPack system on it consisting of full-length headers, an after-cat exhaust, and a high-flow intake. The engine had enough grunt to wake the dead. The C6 was virtually indestructible, but I put a B&M deep-sump pan on it just for good measure. I hung a Gear Vendor's Overdrive off the back of the BW1356 so I could split gears while towing and keep the valves from floating at freeway speeds. To finish it off, I added a TSM Manufacturing disc brake kit to the rear Sterling. Then I drove that sucker into the ground. Almost every mile that truck travelled, it was towing or hauling something heavy. And for all the abuse I dished out to it, most of the problems I had were associated with the Lariat trim level.

➔ The electric window switches, motors, and solenoids would constantly go out. I replaced the driver side three times and the

passenger side twice. White trucks have roll-up windows. Worst-case scenario, the handle falls off and you have to use a pair of Vise-Grips at the drive-through. On the bright side, you'll never be stuck in a hot cab with the windows up, and you'll always know where your Vise-Grips are.

➔ The door lock switches kept dying about every other month. I bought up my local dealership's supply at pennies on the dollar and kept the spares in the glove box, but when my cheap stash dried up, I swapped in manual lock pulls like a real white truck should've had in the first place.

➔ The heater core sprung a leak one day at 70 mph and flooded the passenger-side footwell with boiling-hot coolant and filled the cabin with sticky vapor. I tried to roll with the windows down to evacuate the plume, but—you guessed it—the switch picked that particular moment to fail. ➔ The carpet, cloth bench seat, and fabric door panels got soaked with syrupy sweet-smelling coolant when the heat-

er core fragged. The smell was enough to make me sick, no matter how many times I wet-vac'd the interior. That wouldn't have happened with a vinyl bench, rubber floor mat, or plastic door panels. White truck for the win.

➔ The headliner fabric separated from the fiberboard and would flop down in my field of vision before I got fed up and ripped it out. A solid plastic liner doesn't flop in your face. Advantage: white truck.

➔ One of the hubcaps flew off on a dirt road and the other got dented wheeling. Seriously, hub caps? No self-respecting white truck would be seen dead with 'em. Well, maybe poverty dog dishes.

I still need to get a proper bare-bones truck one of these days. When I think about it, you really only need one wire to make a 12-valve Cummins run. Maybe a late '80s Dodge with power nothing and Rain X on the windshield instead of wipers. Or an old 6.9L F-350 that'll go for 750,000 miles and has a body that would make a leper blush—something even more rudimentary and stripped down than a white truck. Maybe I'll paint it gray.

—CHRISTIAN HAZEL

CHRISTIAN.HAZEL@FOURWHEELER.COM

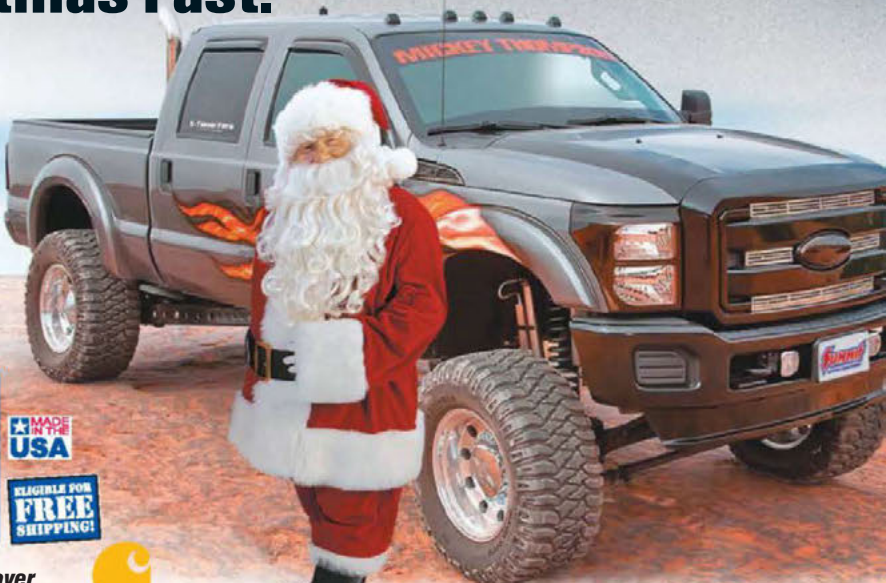
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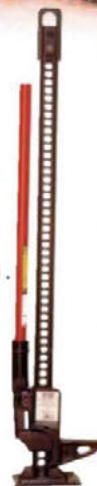


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## MIAMI VISE

I enjoyed Ali Mansour's article on the Wilton Tools All Terrain Vise ("Grab & Go," Oct. '14) and think it's an idea long in coming. I was disappointed, however, to see that homonym confusion was a common vice replicated here. You might

want to have a chat with your spell-checking software!

**DAVID T-G**  
VIA EMAIL

I'm requiring Ali to dress like Don Johnson's '80s Miami Vice character around the office 'til the difference sinks in.

## J-TRUCK WITH A CAUSE

My name is Cole Bortner. I am 21 years old and live in New Jersey. Like many, I am a huge *Four Wheeler* fan and a die-hard Jeep lover. About two days ago, I was sitting in a cancer center reading a *Four Wheeler* magazine, in particular your article about traveling and great times to be had. Although I have many trail and travel stories, I have a bit of a different one that I would really like to share with you.

About three years ago my brother-in-law, Cody, and I were searching for a Jeep. His mother eventually stumbled upon a '66 J3000 she fell in love with. For \$500, she and I picked it up and planned on surprising Cody with it. It had no drivetrain and was pretty much a rolling chassis, but I knew it would be

a great project for us to work on together. We surprised him on his 16th birthday, and he couldn't have been happier. His uncle let us keep the Jeep in his side yard, because we didn't have anywhere else to work on it. We found a very cheap '85 Dodge W150 and did a chassis swap with just a basic set of tools. Doing it on a patch of dirt was challenging, but we succeeded. I had a friend come help us lift the cab onto the new frame, we fabricated new body mounts, and it really came out great. The truck was just about ready to be on the road, and Cody wasn't feeling up to much of anything. We would work on the truck, but the work would be short, and he wouldn't feel himself—he would lose breath fast and get sick easily. His mother and I took him to the hospital one night when he was 18, and he was diagnosed with Lymphoma.

They began giving Cody chemotherapy treatments, which he is currently still receiving. The first couple months were very hard. Then, one day Cody asked me if I wanted to go work on the truck. I couldn't believe it—I thought, with all this going on, that would be the last thing on his mind. So we did. Working on that old Jeep were about the only times I would see him truly happy. We sure did take a lot of breaks, but a few short months later, we started it up for the first time. The happiness is hard to explain. Almost every garage guru goes through it when all your time pays off and your project fires up for the first time, but doing it while fighting cancer just made it that much sweeter.

We got that truck up and running, and it is awesome. We take it to events here and there, and people often ask Cody about his hair or his eye (which is squinting due to the pressure of the mass in his chest). He always says that he is fighting cancer, but he takes it one day at a time, and the Jeep is truly making his fight a little bit easier. Through the past few months, the doctors are still searching and giving him surgeries to find out how to stop it. They say it is curable with time, but meanwhile, it sometimes seems like it is tearing him apart.

I have a '89 Jeep Grand Wagoneer we work on from time to time, but he

is slowly losing strength and sometimes his positive attitude he had once before. He had to have a biopsy done a few days ago, which is what brought me into the cancer center. When I read your article waiting for him, it just brought back the feeling I had about those long days and nights working on the Jeep with Cody before he was diagnosed. I am not asking for miracles, but somehow, I hope this message reaches you, and maybe we could give Cody something to be proud of. I know even a picture of his Jeep in the magazine would make him so happy and proud. It would mean a lot to him. He has no idea I am writing this and would never want me to. He is a quiet kid. He never asks for anything, and as a big brother, I feel he deserves a little happiness for his ongoing fight. I am going to attach a few pictures of our Jeep building Journey together. Thank you so much for your time I hope you are able to respond.

**COLE BORTNER**  
NEW JERSEY

**That's quite a touching story. You guys are pretty young to be dealing with something so heavy. Cody, I'm glad you've had a good distraction in the J-truck and obviously enjoy a strong support system of friends and family behind you during his fight. The *Four Wheeler* team supports you too. Keep fighting, and we hope you beat it soon.**

## TOYO-DUH

I'll give you an A+ on the article about the legendary Toyota FJ45LV ("Half-Century Cruiser," Oct. '14), but a D- on the facts. Jay Kopycinski states that the '74 155 hp replaces "the original four-cylinder's 135 hp." Of course, no FJ45 LV, or any other Land Cruiser, was ever produced with a four-cylinder gasoline engine. In fact, the six-cylinder engine was one of the most important points in marketing Toyota's new off-road trucks in the USA. History tells us that the marketing was a success, as the world's mightiest four-wheel-drive vehicle was offered in the USA solely with a gasoline inline six-cylinder engine for nearly forty years.

**JASON D. TREADAWAY**  
MARIETTA, GA

I went back to check. Actually, Kopycinski's original manuscript just read "original F135 3.9L engine." He never said four-cylinder. So Kopycinski never got that wrong. That little nugget of genius was added by me, the early Jeep guru/early Toyota dumbass. I've been playing in the world of Jeeps for so long that when I read F135, my brain just interpreted that as being like a Jeep 134 F-head four-cylinder. I'm not sure if you'd call that Jeeplexia or Toyoduh, but either way, my apologies for getting the facts wrong. **FW**



## WHERE TO WRITE

Address your correspondence to **Four Wheeler, 831 S. Douglas St., El Segundo, CA 90245** or send an email to [christian.hazel@fourwheeler.com](mailto:christian.hazel@fourwheeler.com). All letters become the property of Four Wheeler, and we reserve the right to edit them for length, accuracy, and clarity. The editorial department can also be reached through the website at [www.fourwheeler.com](http://www.fourwheeler.com). Due to the volume of mail, electronic and otherwise, we cannot respond to every reader, but we do read everything.



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BY **TORI TELLEM**  
EDITOR@FOURWHEELER.COM

# RIP

## AUTOMOTIVE NEWS



## THAT'S INTERESTING

### ➤ Pricing of the '15 Toyota

Tundra TRD Pro: \$41,285 for the double cab with the 5.7L V-8 and \$43,900 for the CrewMax V-8.

### ➤ Want to get all the details

about Nissan's Project Titan, which was a crowd-sourced project in which people picked the mods and helped build the truck? Go to [youtube.com/user/nissanusa](https://youtube.com/user/nissanusa). The customized vehicle hit the rugged Alaskan wilderness in the summer with two Wounded Warrior Project alumni.

### ➤ GM news: The '15 Chevy

Colorado will start at \$20,995.

The GMC version, aka Canyon, will begin at \$21,880 since it's the fancier brand of the two.

➤ **More GM news: It's investing** \$185 million to make small engines at its Spring Hill, Tennessee, plant.

### ➤ And more GM news: Its HQ

in Detroit composts food prep scraps from its restaurant's kitchens to be used in local urban farming initiatives. GM's HQ sends no waste to landfills.

### ➤ Universal Technical Institute

(UTI) has expanded its Daimler Trucks North America's Finish



Photo: GM

First training program to the new campus in Lisle, Illinois. It's an effort to breed qualified truck techs at Daimler dealerships across the nation.

### ➤ The websites [pickuptrucks.com](http://pickuptrucks.com),

[cars.com](http://cars.com), and [mrtruck.com](http://mrtruck.com)

named the '15 GMC Sierra 3500 HD the winner of the '14 Ultimate Heavy Duty Challenge 1-ton diesel category.

### ➤ Ford's former CEO Alan

Mulally is now on the board of Google. He's the 11th member.

*continues on next page*

*"NISSAN ALREADY HAS A STRONG PRESENCE IN RUSSIA, AND WE'RE COMMITTED TO INCREASING THAT LOCAL PRESENCE THROUGH INCREASED RUSSIAN DESIGN, ENGINEERING, AND PRODUCTION SO THAT WE CAN MAKE THE CARS THAT RUSSIA'S DRIVERS WANT AND NEED, WHILE BOOSTING JOBS AND THE WIDER RUSSIAN ECONOMY. INNOVATIVE AND ACCESSIBLE RUSSIA-BUILT VEHICLES LIKE THE PATHFINDER AND SENTRA DEMONSTRATE THAT OUR COMMITMENT TO RUSSIAN DRIVERS HAS NEVER BEEN STRONGER."*

**—PAUL WILLCOX, CHAIR OF NISSAN'S EUROPEAN OPERATIONS**



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continued from previous page

➔ **Google's next-gen self-driving car** (sans steering wheel or gas pedal) has Velodyne real-time 3-D LiDAR sensor for object detection and collision avoidance. We hope that sensor is LaRGE.

➔ **Ford is building Michigan's largest solar array**, or as we like to say, the second largest solar carport in the Midwest. It will have 30 charging stations and 360 covered parking spaces.

➔ **It's official: Z71 package** for the '15 Chevy Tahoe and Suburban. The Z71 started as a true package in 1988; the Tahoe and Sub got it in 2001.

➔ **Twins Peter and Alex Ackerman** started jeepwavefan.



com. The online store offers T-shirts, bumper stickers, and other merchandise. Did we mention the twins are only 14 years old?

➔ **On the subject of clothing**, the Stio clothing brand is a big supporter of the Greater Yellowstone Whitebark Pine Committee through the U.S. Forest Service.

➔ **eBay researchers sorted out what people are buying** the most in all 50 states. For example, North Dakota was king of autos and parts purchases, while South Dakota maxed out on tools. Texas went tactical and hunting goods, while Ohio scooped up outdoor equipment and Alabama hit camping goods hard. Hello, firearms. Hello, New York. P.S. Tennessee, what's up with all the dental supplies?

➔ **Want a \$359.99 Ram Power Wagon?** This is the SCX10 model from Axial.

Did we forget to mention it's an RC? The miniature Ram has a two-piece body that can be used with an available rollcage flatbed set. Evans Racing wheels, a four-link rear, aggressive tires, and WB8 HD Wildboar driveshafts are among the beef. Go to axialracing.com, and then hit the trail. It's built for it.

➔ **Peak, maker of anti-freeze and coolant**, did a survey. Survey said 92 percent of American vehicle owners do prep before a road trip but only 35 percent expected to experience trouble while on said road trip. By the way, that trip? Let's just say 64 percent expected "bathroom stops to impact the experience." The same percentage was worried about their engine grenading, which happened to be the No. 1 maintenance worry.

➔ **The new Goodyear Blimp:** Wingfoot One.

✓ **GEE, THAT PRESS RELEASE SOUNDS NAUGHTY:**

**"KERUI ENHANCES ITS CORE COMPETENCY IN THE DRILLING MARKET"**



➔ **Random Photo We Dug**

Toyota's Instagram was home of this pic of the FJ summit in Colorado.



Photo: GM

## ➔ Rally Silverado and Blacktop Durango

You can get your rally on with a Silverado Rally 2 Edition package on 1500 LT models, either double-cab or crew-cab. Black is the new black: The body-colored grille has a black Bow-Tie, there are double black stripes on the hood and tailgate, the tubular steps are black, the 22-inch rims are black, yes, you guessed, and so are the mirror caps and door handles. A trailering package is included.

Over at Dodge, the Durango has up and gotten itself a Blacktop Appearance Package, which means black is the new black again, with 20-inch wheels, grille, mirrors, badging, bezels, and so on. It's available on the SXT, Limited, and R/T. Random quote with an air of sadness, desperation, and confusion: "The rear-wheel-drive Dodge Durango is already one of a kind. It stands out as the Charger of the three-row SUV segment," said Tim Kuniskis, the pres of Dodge and SRT brands.



## ➔ IS IT TRUE?

➔ **Ram Truck has a new head**, Robert Hegbloom?

➔ **And about that Jeep you bought:** The '14 Jeep Cherokee is among the most hackable vehicles according to cyber crime researchers at IOActive, with regard to Bluetooth and WiFi?

➔ **Jeep outsold itself in North America** in January-July 2014, 44 percent over the same time in 2013?



➔ **Bear Grylls is the new global brand ambassador** for Land Rover?

➔ **The OnStar RemoteLink app** has now milestone'd more than a million users, who can access vehicle diagnostic info such as tire pressure and oil level? And remote start is the most popular of the app's features?

➔ **Mercedes-Benz has the "most active fans"** on social media? And is among the Top Four auto brands when it comes to growth?



The Nitto logo is positioned at the top left of the advertisement. It features the word "Nitto" in a bold, italicized, sans-serif font. The letters are white with a black outline, and the "i" has a distinctive dot. The background of the entire advertisement is a close-up, high-contrast image of a Nitto Exo Grappler AWT tire tread, showing deep grooves and sipes. The tire is dark, and the tread pattern is highlighted by the lighting, which creates a sense of depth and texture. The overall color palette is dark, with shades of black, grey, and brown, accented by the white text and the yellowish-brown dust or gravel kicked up by the tire.

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## WHAT'S HAPPENING IN THE INDUSTRY

### Jeepspeed has a new race series.

For 2015, the Wrangler Desert Trophy Series will be sanctioned by Best in the Desert, and there will be three events: the Mint 400 (March) in Las Vegas, the Silver State 300 (May) in Northern Nevada, and BlueWater Desert Challenge (October) in Parker, Arizona. Learn more at [jeepspeed.com](http://jeepspeed.com).



### Valvoline's #GarageHacks series is

all about the tips and tricks DIYers have learned during their vehicle projects. Valvoline wants to hear yours. Go to @valvoline on Twitter and Instagram with the hashtag #garagehacks.

### Pep Boys is now carrying apparel and

licensed merchandise, including from Ford, Chevy, Ram, and Mopar. We're talking stuff like hoodies, Ts, key chains, phone cases, and more. Get hip via [pepboys.com](http://pepboys.com).

### Dexcom G4 Platinum Continuous

Glucose Monitor—OK, we get a lot of

press releases that are tweaked to seem automotive related, like that one. But then we were told a NASCAR driver mounts the monitor on his dash during races to keep an eye on glucose levels, and it got us thinking about being on the trail for hours and having the same issue. So, check out [dexcom.com](http://dexcom.com) in case this product might be something that would enable you to get out on the trail without worrying about your health.

### Bushwacker will hand out the Founder's

Award to the best truck/SUV at the '14 SEMA Show. Learn more at [bushwacker.com/foundersaward](http://bushwacker.com/foundersaward).



## Land Rover Discovery Sport

There's a new Disco, featuring a 2.0L engine (and 2.2L diesel across the pond; an ED4 diesel will come later in 2015 and boast super fuel efficiency), a nine-speed auto trans or six-speed manual trans, and 5-and-2 seating.

## YOUR GOVERNMENT AT WORK

For the most part, the Maine Turnpike speed limit has increased by 5 mph to 70 mph.

NHTSA has a proposed rule for vehicle-to-vehicle communications/technology.

Hipsters call it V2V. The agency is stoked by the idea of talkative technology that can help with traffic flow and safety.

Approval of a road-usage fee is in the hands of the governor in California.





➔ **Toyo's Open Country R/T** is designed for rocks, sand, and dirt, and has a 45,000-mile treadwear warranty and No Regrets 45-day/500-mile trial offer.

➔ **40 years for Cummins at its Jamestown** Engine Plant in New York.

➔ **Eaton got the Leader in Joy award** for its 25-year partnership with Make-A-Wish Michigan.



## ➔ **Tundra Helps Toyota Set NASCAR Record**

Having 12 consecutive wins wasn't enough. But setting a new NASCAR record of longest string of wins by one manufacturer in the 19-year history of the NASCAR Camping World Truck Series was noteworthy. And Erik Jones took his No. 51 Kyle Busch Motorsports Tundra to a win that made him the youngest race winner in the history of the series.

### **Four Wheeler App**

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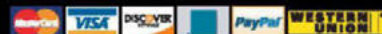
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# COLORADO HIGHWAY



## Recreating Land Rover's Great Divide Expedition

By **Christian Hazel** christian.hazel@fourwheeler.com Photography: Courtesy of Land Rover



**S**OME OF OUR FAVORITE TRAILS IN THE entire world are those cutting atop, across, and through the high mountain passes, ghost towns, and mining camps of the Colorado Rockies. Steeped in history and rife with color, these trails have it all, from jaw-dropping scenery, enjoyable wheeling, and long-abandoned relics of 19th-century high-elevation mining operations. So when Land Rover approached *Four Wheeler* to ask if we wanted to partake in recreating the 1989 Great Divide Expedition, we jumped at the chance. After all, *Four Wheeler* was there 25 years ago the first time Land Rover outfitted a caravan of otherwise-stock Range Rovers with roof racks, lights, and aluminum winch bumpers and set them on a 1,000-mile journey to span the most challenging portion of the Continental Divide

as a launch event for the 1990 Range Rover. With front and rear solid axles, a slinky coil suspension, a fuel-injected 3.9L V-8, and great ground clearance relative to its 205/60R16 tires, they were well equipped to tackle the obstacles of the Great Divide.

However, we couldn't help but wonder how the modern Range Rover would fare over the same terrain. After all, Land Rover has aggressively targeted the high-end luxury SUV buyer, especially with its new Range Rover. Had off-road performance become a casualty of the brand's increasing focus on in-cabin comfort and amenities? Would we leave more sheetmetal on the trail than on the vehicles? Would we spend all day changing out low-profile tires shredded by granite gitchas? As it turns out, no.

Given the fact most invitees were ham-fisted journalists from lifestyle-type publications with little or no off-road driving experience, we have to first give props to the instructors from the Land Rover Driving Experience program. One instructor was assigned to each vehicle. They were not only fun to hang out with and had a wealth of off-roading tech and tales, they were quick to offer driving assistance and spotting to any novice driver who needed it. But more to the point, we were really impressed at how well the Range Rover can wheel. With almost 14 inches of wheel travel out back and 12 inches up front, a locking rear diff, low range, and a seamless and unobtrusive four-wheel-drive system, it's actually among one of the better wheeling OE vehicles we've ever piloted. Sure, the breakover





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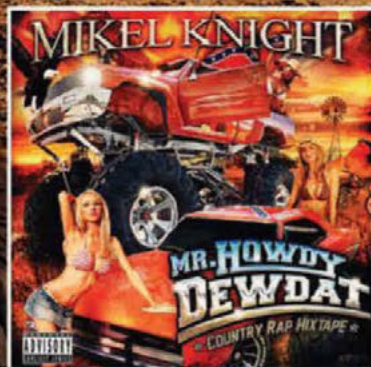
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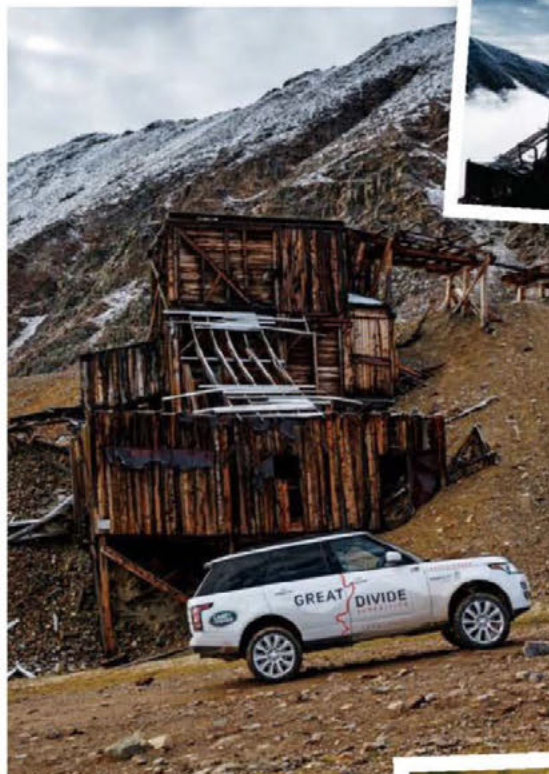


[www.MikelKnight.com](http://www.MikelKnight.com)



angle isn't as good as a two-door Wrangler and the low-profile tires are its Achilles' heel, but the Range Rover plain works off-road. We get that a lot of people are gonna be haters because of Range Rover's \$100,000-up sticker price, heated/air-conditioned/massaging front seats, and mostly image-conscious buyers. But putting prejudice aside, it flat-out is a good off-road vehicle. Unlike many new 4x4s that use electronic enhancements to make an IFS/IRS off-road capable, the Range Rover system is seamless and invisible. There's no preponderance of wheel slippage, jerking, throttle chopping, or other shenanigans. In fact, if we didn't know better, other than constantly trying to spot sharp rocks that would take out the P275/45R21 tires in a heartbeat, you'd think you were driving a proper solid-axle 4x4 with a rear locker. And for blue-collar guys like us used to wheeling old iron on hardcore trails, that's about the best endorsement we can give a vehicle we're lucky enough to get to drive, but know we'll never be able to afford.

That said, if you've got the ducats and you're in the market for something like that, rest assured the Range Rover has the off-road prowess to match its luxury. If you want proof, read on for the rest of the trip report.



Outside of Leadville and up London Mountain, the first wave paused to look over the remains of the North London Mine before heading up Mosquito Pass. Some summer weather frosted the peaks in snow and kept the clouds well below the 13,188-foot pass.

Thanks to some closures, landslides, tunnels caving in, and other insurmountable factors, the 25th anniversary of the Great Divide Expedition wasn't able to follow exactly the same route as the original. Also, where the original began in Wyoming, the 25th trip began in Denver and was comprised of three separate waves. We tagged along for the second wave of the event.



Bob Burns is the manager of the Land Rover Experience and has over 28 years with the company, helping to launch every Land Rover model since 1987. In addition to Bob, Land Rover legend, Tom Collins (not shown), was along. Tom was one of the original Land Rover instructors and mapped out both the original and 25th anniversary Great Divide Expeditions. Most instructors have at least 10 years instructional experience under their belts and many were competitors in the Camel Trophy events. Here, Bob easily guides a Range Rover through one of the trickier sections.

In addition to a few Land Rover LR4 support vehicles, our caravan of ten Range Rovers was accompanied by one of the original, fully restored '90 Great Divide Range Rovers.



Our second wave left Aspen en route to Taylor Pass. The trail climbs through Aspen forests, which, by late summer, are already turning the trademark gold many visitors associate with the state's higher elevations.



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Our second trail day began early, but we had a lot of ground to cover to make it to Old Cow Town near Saguache, Colorado. We loaded up and high-tailed it for Hancock Pass.



The shelf road to Hancock Pass' 12,140-foot summit was cut in the 1880s and has been the site of many avalanches and slides over the years. Thankfully, when we passed through, the only thing we had to worry about was the errant varmint poking its head up to check us out.



The climb up Hancock Pass is littered with sharp rocks and shelf roads with a nice, scenic drop-off. Our only complaint was the constant threat of shredding the tires. Otherwise, the Range Rovers performed flawlessly.



The Great Divide Expedition was a high-class affair. The days were long, but the nights were spent either in luxury hotels or "glamping." That's glamorous camping to you and I. We spent our first night on the trail at Malcom Smith's Sunshine Ranch, eating gourmet barbeque and listening to cowboy songs by the campfire.





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# FREE

WITH ANY PURCHASE  
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1" x 25 FT.  
**TAPE MEASURE**

Item 69080 shown  
ITEM 69080  
69030/69031

## \$6.99

VALUE

**LIMIT 1** - Cannot be used with other discount, coupon or prior purchase. Coupon good at our stores, HarborFreight.com or by calling 800-423-2567. Offer good while supplies last. Shipping & Handling charges may apply if not picked up in-store. Non-transferable. Original coupon must be presented. Valid through 3/7/15. Limit one coupon per customer per day.

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## SAVE \$85

### RAPID PUMP® 3 TON HEAVY DUTY STEEL FLOOR JACK

Item 68048 shown

## \$74.99

• Weighs 74 lbs.

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## \$99.99

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- Car Craft Magazine

## SAVE \$330

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### 44", 13 DRAWER INDUSTRIAL QUALITY ROLLER CABINET

• 2633 lb. Capacity • Super High Gloss Finish  
• Weighs 245 lbs.

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### SUPER COUPON

Not for overhead lifting.

## 3/8" x 14 FT. GRADE 43 TOWING CHAIN

**HandiMaster**

LOT NO. 97711/60658

## SAVE 44%

Item 97711 shown

## \$24.99

• 5400 lb. Capacity

REG. PRICE \$44.99

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### SUPER COUPON

Item 60813 shown

"Voted The Best Deal in Winching" - Off-Road Magazine

## 12,000 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE

LOT NO. 68142/61256/60813/61889

## \$299.99

REG. PRICE \$499.99

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### SUPER COUPON

## 4-1/2" ANGLE GRINDER

**drillmaster**

LOT NO. 95578/69645/60625

Item 60625 shown

## SAVE 50%

## \$9.99

REG. PRICE \$19.99

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## 2 PIECE VEHICLE WHEEL DOLLIES

• 1500 Lb. Capacity

**HandiMaster**

Item 67338 shown

## SAVE 50%

## \$39.99

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For off-road use only.

## OFF-ROAD LONG-RANGE TRUCK LIGHT SYSTEM

**ROAD SHOCK®**

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REG. PRICE \$39.99

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- Street Trucks Magazine

## 2.5 HP, 21 GALLON 125 PSI VERTICAL AIR COMPRESSOR

**CENTRALPNEUMATIC**

Item 67847 shown

## SAVE \$70

## \$149.99

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## 32 PIECE SCREWDRIVER SET

**PITTSBURGH**

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Item 90764 shown

## SAVE 60%

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**PREDATOR GENERATORS**

• 70 dB Noise Level

LOT NO. 69676/69729

LOT NO. 69675/69728 CALIFORNIA ONLY

Item 69729 shown

## SAVE \$200

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### SUPER COUPON

## 42" OFF-ROAD/ FARM JACK

Item 6530 shown

LOT NO. 6530/60668

• 3-1/2 Ton Capacity

## SAVE 33%

## \$39.99

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📍 We passed through Tomichi Pass at 11,979 feet and visited the remains of the town of Tomichi. An 1899 avalanche destroyed the by-then mostly deserted town, leaving only the cemetery behind.



📍 We made it to Old Cow Town just outside of Saguache in time for a cool lightning storm, an amazing barbeque dinner, and some great live music in the saloon before bedding down in a period-correct-looking hotel (with some modern amenities, of course). If you're ever in the neighborhood, Old Cow Town is definitely worth a stop.



📍 For the final trail day of our second wave group, we tossed the Rovers in low range and made tracks through Los Pinos (11,100 feet) and Slumgullion (11,361 feet) passes en route through Lake City, Capitol City, and then Engineer Pass (12,800 feet).



📍 The view from Engineer Pass is breathtaking, but no more so than the descent down the mountain toward Ouray. Engineer Pass is one of our all-time favorite drives in Colorado, with beautiful scenery and lots of abandoned mining refuse to gawk at. We rolled into Ouray at sunset and handed the reins over to the third wave. **FW**







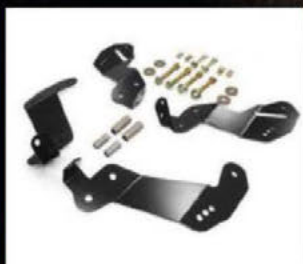
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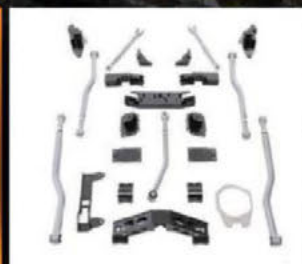
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# GOOD GIFTS FOR THE PENNY-PINCHING GIVER

## Best Buys: \$0-\$100

By **Henry Mueller** editor@fourwheeler.com

Photography: Courtesy of the manufacturers & Four Wheeler staff

**M**OST OF US DON'T HAVE A LOT OF SPARE FUNDS DURING THE HOLIDAY SEASON. But you don't have to resort to giving a hand-drawn crayon portrait as a gift. Here are some ideas for great gifts that won't put you in the poorhouse.

**1 WHAT:** Give the gift of long-lasting slipperiness. Amsoil synthetic lubricants are one way to ensure your vehicle lasts almost as long as you. The company makes engine, transmission, differential, and any other oil you need to add to your vehicle, as well as its own line of grease, high-quality filters, and more. We like the company's 75W-90 gear lube.

**HOW MUCH:** \$15/quart

**WHERE:** Amsoil, 800/956-5695, amsoil.com

**2 WHAT:** If you've ever pulled your valve cores to air down, only to have the core whiz over your shoulder into the dirt, you'll appreciate Extreme Outback Products' No Loss Valve Caps. They cinch tight and offer an airtight seal, even with no valve core in the stem. As a bonus, the caps attach to the stem so you'll never lose them.

**HOW MUCH:** \$14/set of four

**WHERE:** Extreme Outback Products, 866/447-7711, extremeoutback.com

**3 WHAT:** Used military ammo cans are immensely useful to off-roaders. You can build them into a center console, lock your tools or spare parts inside, keep recovery gear, or whatever you like. They come in a wide array of sizes and feature heavy steel construction with O-ringed latching tops. We like the 50-cal versions. You can find them surplus, or if you're not into foraging, Quadratec carries them in several sizes.

**HOW MUCH:** \$5-up (surplus) or \$19 (Quadratec)

**WHERE:** Quadratec, 800/745-5337, quadratec.com

**4 WHAT:** Space in your modern vehicle's interior is almost at as much a premium as underhood space. That's why Daystar's Dash Switch Panels make it so much easier to put switched accessories in your modern vehicle. The company has vehicle-specific panels for JK Wrangler, Ford, and Hummer vehicles, with universal applications as well.

**HOW MUCH:** \$20

**WHERE:** Daystar, 800/595-7659, daystarweb.com



1



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5



6

**5 WHAT:** Aside from those of you in Colorado and California, if somebody asks you for a good joint, they're talking about a genuine Spicer U-joint. With a cold-forged body and quality grease throughout, each Spicer U-joint will give you a lifetime of service.

**HOW MUCH:** \$20-up, depending on application

**WHERE:** Spicer, 800/621-8084, spicerparts.com

**6 WHAT:** It's only the most useful off-road tool ever invented. And it's been in use and proven for so long that cave paintings in France clearly depict Hi-Lift jacks being used to lift mammoth kills. If your off-roader doesn't already have one, put a 48-inch version under the tree.

**HOW MUCH:** \$60

**WHERE:** Hi-Lift, 800/223-2051, hi-lift.com

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**7 WHAT:** It's been called hillbilly fuel injection. That's because a properly operating Q-Jet four-barrel or Motorcraft two-barrel runs so well at crazy off-road angles it's the cheapest alternative to an expensive injection system. You can find either from a junkyard nowadays for as little as \$15. Add in another \$25 for new gaskets from a rebuild kit and you're in business.

**HOW MUCH:** \$15-up

**WHERE:** Local junkyard or online community



**8 WHAT:** Charging systems can be problematic things. A one-wire alternator will vastly simplify things. We like Summit Racing's 100-amp alternator (PN 811001). You only need to hook up a charging lead from the alternator to the Positive terminal on the battery. Easy, done.

**HOW MUCH:** \$91

**WHERE:** Summit Racing, 800/230-3030, summitracing.com



**9 WHAT:** Long the mainstay of the educated airer-downer, the Currie Enterprises Tire Deflator is an all-inclusive air-down system that captures the valve core so it can't escape. A quality brass fitting, chuck, air gauge, and flexible hose allow you to quickly and accurately air down each tire without the fear of losing a valve core.

**HOW MUCH:** \$32

**WHERE:** Currie Enterprises, 714/528-6957, currieenterprises.com

**10 WHAT:** If you have a project that's not going anywhere in a while, get some Harbor Freight car dollies so you can push it out of your way from time to time. If nothing else, it'll make you feel like you're making progress on your languishing project.

**HOW MUCH:** \$60/pair

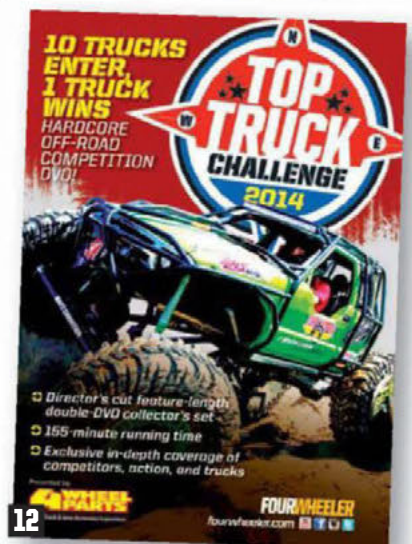
**WHERE:** Harbor Freight Tools, 800/423-2567, harborfreight.com



**11 WHAT:** The welded-steel Flowmaster 50 Series muffler sounds as good as it is bashable. And it is definitely bashable. The Flowmaster increases exhaust flow while sounding great, and its heavy steel construction allows it to absorb monster damage while continuing to function perfectly.

**HOW MUCH:** About \$89, depending on application

**WHERE:** Flowmaster, 707/544-4761, flowmastermufflers.com



**12 WHAT:** Not to toot our own horn, but the 2014 Top Truck Challenge DVD is about the most awesome present one human being could give another. With killer footage of this year's event, plus a ton of extra footage not found on our website or YouTube channels, it's worth its weight in gold. Get yours at your local 4 Wheel Parts store.

**HOW MUCH:** \$26

**WHERE:** 4 Wheel Parts, 800/257-5629, 4wheelparts.com



**13 WHAT:** Keeping your cooler from flopping around means you got to cinch it down with a strap, but then every time you want to grab a drink or snack, you have to uncinch it. Magnacool (formerly Stick-It Magnetics) offers its Magnacooler—a cooler with a magnetic base. Just plop it down on any steel surface and it's not going anywhere until you yank it away.

**HOW MUCH:** \$50

**WHERE:** Magnacool, magnacool.com

**14 WHAT:** Give them that special gift you know they'll love—a greasy SM420 transmission. They're not being made anymore, but you can still find them in junkyards for around \$100. Just look in any GM pickup from the 1960s to early 1970s. Or, if you're hard up, Novak Conversions offers fully rebuilt models.

**HOW MUCH:** \$100 (junkyard), about \$1,500 (Novak fully rebuilt)

**WHERE:** Novak Conversions, 435/753-2513, novak-adapt.com



13



14

fourwheeler.com

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WITH THE NEW DICK CEPEK

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The **FUN COUNTRY®** by Dick Cepek Tires and Wheels was developed using a unique combination of design elements, technology and engineering. It delivers excellent off-road traction, a quieter ride and superior durability for today's light trucks and 4x4s.

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**15 WHAT:** Want to make your Warn winch stand out? Trick out your recovery bag with some of Warn's new Premium line of recovery equipment. The high-end shackles, snatch blocks, tree savers, and even winch hooks can be purchased individually and really stand out in looks and performance.

**HOW MUCH:** \$42-\$75 depending on product

**WHERE:** Warn, 800/543-9276, warn.com

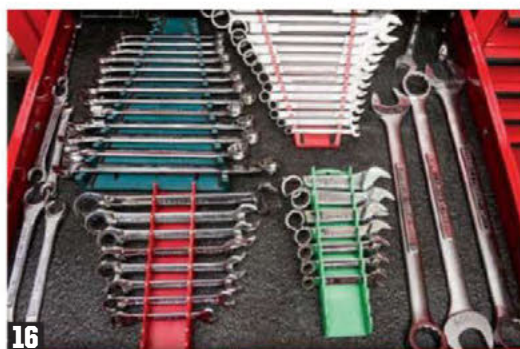


**15**

**16 WHAT:** There's nothing worse than a sloppy toolbox, and of all those sloppy drawers, nothing is more offensive than tangled wrenches. Available from a variety of manufacturers, these wrench organizers can be just the thing to straighten up the toolbox clutter and decrease time spent searching for the right tool.

**HOW MUCH:** \$6-up

**WHERE:** Most local tool stores



**16**

**17 WHAT:** If you've built a tube buggy or just want a cool-looking and secure way to hang something on your 'cage, Rugged Ridge X-Clamps are the ticket.

**HOW MUCH:** \$24/ea

**WHERE:** Rugged Ridge, ruggedridge.com

**18 WHAT:** Craigslist, Jeep dealership, or your local off-road warehouse's dumpster. If that's the answer, the question must be, "where can you find factory JK Rubicon shocks?" They're valved very soft and make a great, cheap upgrade for many off-road-going vehicles' suspension. We don't know why the Jeep guys are so anxious to get rid of 'em.

**HOW MUCH:** Free to \$10, used

**WHERE:** Craigslist or a dumpster

**19 WHAT:** Dedicated shop gloves are expensive and wear out rather quickly. In lieu of the expensive padded ones, use heavy welding gloves for big chores. They cost about the same as the fancy padded nylon gloves and wear forever. For finer jobs, a pair of TIG-welding gloves allows more finesse.

**HOW MUCH:** \$34

**WHERE:** Miller Electric, 920/7349821, millerwelds.com



**17**



**20**



**21**



**18**



**19**

**20 WHAT:** A cheap carabiner can't be used for climbing, but you can sling a bunch of closed-end wrenches on one so they don't get lost in your trail toolbox. Or, use one as a handy clip to keep your car keys on you so they never get dropped on the trail.

**HOW MUCH:** \$1

**WHERE:** Most hardware and auto parts store

**21 WHAT:** It's got a hollowed handle with a screw-on cap and lanyard just like Rambo's knife. It's light weight, easily maneuverable, razor sharp, and comes with a cool sheath. Smittybilt's Trail Ax is a great addition to any off-road-going vehicle, or just get one and keep it in the garage.

**HOW MUCH:** \$29

**WHERE:** Smittybilt, 888/717-5797, smittybilt.com



**22** **WHAT:** As great as Hi-Lift Jacks are, adding a Jack Mate base from Rescue 42 makes it even better. The Jack Mate adds clamping ability, accepts D-ring shackles, has sharp jaws to bite into uneven surfaces and avoid slipping, and tons of other useful features. It slides right on the end of a Hi-Lift in place of the factory base and is secured with an attached pin.

**HOW MUCH:** \$42

**WHERE:** Rescue 42, 888/427-3728, [rescue42.com](http://rescue42.com)

**23** **WHAT:** Not all of us can drive our 4x4s all winter long. If you've got to put your toy away for the winter or it sits for prolonged periods of time, the Auto Meter Battery Extender charges and maintains your 12 or 16-volt battery all year long, constantly switching a token 1-amp trickle charge off and on.

**HOW MUCH:** \$82

**WHERE:** Auto Meter, 866/248-6356, [autometer.com](http://autometer.com) **FW**



22



23

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# OFF-ROADING GIFTS YOU CAN AFFORD

## Best Buys: \$100-\$250

By **Henry Mueller** [editor@fourwheeler.com](mailto:editor@fourwheeler.com)

Photography: Courtesy of the manufacturers & Four Wheeler staff

**I**F ORANGE IS THE NEW BLACK, THEN \$150 IS THE NEW \$20. HECK, IT TAKES US \$100 TO TOP OFF THE TANK of a couple of our 4x4s, and dinner at a decent restaurant can approach \$200 nowadays. So, if you've become as numb to the thought of dropping over \$100 on a single purchase as we have, check out some of these gift ideas in the \$100-\$250 range.



**1**



**2**



**3**

**1 WHAT:** Going topless is unquestionably a great thing, but it's not always appropriate every day. When inclement weather or morning dew threatens the interior of your Wrangler, toss on a Bestop All Weather Trail Cover to protect your Jeep's interior. What did you think we were talking about?

**HOW MUCH:** \$180

**WHERE:** Bestop, 800/845-3567, [bestop.com](http://bestop.com)

**2 WHAT:** We don't know who originally thought of putting carpet in a 4x4. Carpet traps dirt and 4x4s live in dirt. Adding a set of WeatherTech floor liners will trap all the mud, snow, dirt, slush, muck, and junk your feet drag in from the trail. They're tailor-fit for each vehicle and can be easily removed for cleaning.

**HOW MUCH:** \$207

**WHERE:** WeatherTech, 800/441-6287, [weathertech.com](http://weathertech.com)

**3 WHAT:** Without electricity, you're not going anywhere. There's nothing worse than spinning the key and hearing a sickening "fzt" sound. Ensure your vehicle always has starting juice with an Optima BlueTop battery. This battery is a deep-cycle unit that can withstand heavy winching and draining loads. Plus, it has wingnut terminals on top for convenient attaching of auxiliary electrical devices.

**HOW MUCH:** \$175

**WHERE:** Optima, 888/867-8462, [optimabatteries.com](http://optimabatteries.com)





**4 WHAT:** We've got X Factor, Fear Factor, Max Factor. Now there is finally a Factor we off-roaders can give a turkey about. The Prolink from Factor 55 is a safety winch thimble that attaches to the end of your winch line and accepts any standard 5/8-inch shackle. It keeps your hands free and clear from the fairlead when spooling in and provides a much more secure attachment point to what you're winching. Built from 6061 aluminum and secured to the winch line with a 5/8-inch titanium pin, you'll rip your winch off your vehicle before you hurt it.

**HOW MUCH:** \$142

**WHERE:** Factor 55, 208/639-1674, factor55.com

**5 WHAT:** It's nice when a pretty girl's eyes go all aflutter as you approach, but it's not quite so nice when it's the hood of your JK doing the same. Once you level your JK hood, the decreased rake allows air to buffet the underside of the hood, pretty much until you're borderline crazy. The Drake JK Hood Latches replace the flexible factory rubber hold-downs with a solid metal offering that looks great.

**HOW MUCH:** \$130

**WHERE:** Drake Off Road, 800/999-0289, drakeoffroad.com



**6 WHAT:** If only all the trinkets you needed to safely and competently take on any winching situation were collected and housed in a durable carrying bag. Warn is way ahead of you, with its Medium Duty Winch bag. It includes twin D-ring shackles, a snatch block, tree saver, 30-foot strap, and a pair of heavy winching gloves, all housed in a red or camo bag.

**HOW MUCH:** \$203

**WHERE:** Warn, 800/910-1122, warn.com

**7 WHAT:** You're heard about the one-legged man in the ass-kicking contest? That's what you'll feel like trying to perform a field fix without a method of securing what you're working on. Mac's Trail D-Vise slides into your receiver hitch to turn the rear of your vehicle into a portable workshop, with the clamping power to safely hold any job you'll need to do on the trail.

**HOW MUCH:** \$159

**WHERE:** Mac's, 800/666-1586, macscustomtiedowns.com

**8 WHAT:** One of the worst parts of fabrication is spending an arm and a leg on custom tabs to hold your seats, shocks, or whatever you're working on. In addition to offering individual tabs, RuffStuff Specialties offers Shop Supply Kits so you can buy an assortment of commonly used tabs at substantial savings over purchasing individually.

**HOW MUCH:** \$175-up depending on tab style

**WHERE:** RuffStuff Specialties, 916/600-1945, ruffstuffspecialties.com



**9 WHAT:** Just because something is inexpensive doesn't mean it's cheap. Summit Racing's in-house products are darn good. The *Four Wheeler* staff has used them on a lot of project vehicles. One of the better bargains is the company's long-tube headers. The flanges seal, the collectors are solid, and the ones we've used haven't cracked and fallen apart. Plus, there's that horsepower and torque boost as well.

**HOW MUCH:** About \$120, depending on application

**WHERE:** Summit Racing, 800/230-3030, summitracing.com



9

**10 WHAT:** Disco may be dead, but the automotive styling of the 1970s will live forever. Take, for example, this Sunpro Retro Tach. With a chrome body, flat or curved column mount, and vintage half-sweep face, it's a dead ringer for the classic tachs of yore.

**HOW MUCH:** \$130

**WHERE:** Sunpro, 800/228-7667, sunpro.com



10

**11 WHAT:** What real off-roader hasn't spent the night shivering under the stars? Wait, shivering? Why would you sleep in a cold bag when Cabela's Magnum 44 sleeping bag will keep you toasty to -20 degrees?

**HOW MUCH:** \$199

**WHERE:** Cabela's, 800/237-4444, cabelas.com



11

**12 WHAT:** Whether in your home or auto, Tuffy's Conceal Carry Valuables Tote makes it easy to lock your valuables away from prying fingers. Available in vehicle-specific under-seat brackets or universal, we like the version with the push-button combo lock instead of a key. Additional sleeves are available to mount the tote in more than one vehicle or location.

**HOW MUCH:** \$184 (push-button combo lock) or \$159 (keyed lock)

**WHERE:** Tuffy Security Products, 80/348-8339, tuffyproducts.com



12



13

**13 WHAT:** Need a tug? Bubba's got your back. The Bubba Rope Renegade is a 3/4-inch-diameter, 20-foot-long kinetic energy rope (think truck bungee) with a breaking strength of 19,000 pounds. The high-strength, high-quality rope comes in its own mesh duffel and is more useful for "unstucking" rigs stuck in mud and glop than a standard strap.

**HOW MUCH:** \$130

**WHERE:** Bubba Rope, 877/499-8494, bubbarope.com





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**14 WHAT:** Need a diff cover that's literally bulletproof? Great Lake Extreme Off Road manufactures super-heavy-duty covers for many popular applications, and they'll honestly stop a rifle round.

**HOW MUCH:** \$125

**WHERE:** Great Lake Extreme Off Road, 260/387-1428, greatlakeoffroad.com



**14**

**15 WHAT:** There's no need to go carrying around dedicated tools like a sledge, shovel, pick, or ax. That's because Hi-Lift's Handle-All kit includes these accouterments, along with a convenient two-piece handle, all in a handy, easy-to-carry bag.

**HOW MUCH:** \$147

**WHERE:** Hi-Lift, 800/223-2051, hi-lift.com

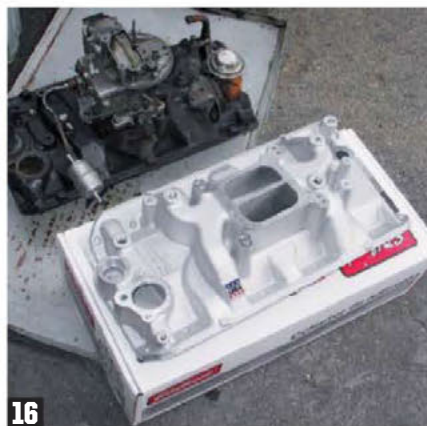


**15**

**16 WHAT:** Why keep your factory cast-iron intake manifold when Edelbrock most certainly makes a high-flow, smog-legal aluminum intake that will unchoke your engine's potential? Available for a super-wide range of American V-6 and V-8 engines and made right in the USA, the Performer line lives up to its name.

**HOW MUCH:** About \$140-\$210, depending on application

**WHERE:** Edelbrock, 310/781-2222, edelbrock.com



**16**

**17 WHAT:** Now that's a knife! AEV has contracted with Benchmade, one of the premier blade manufacturers, to design a good-looking, top-quality assisted-opening knife. Based on Benchmade's 581, the blade can be had in regular or semi-serrated design and will last a lifetime.

**HOW MUCH:** \$235

**WHERE:** AEV Conversions, 248/926-0256, aev-conversions.com



**17**

**18 WHAT:** Want to blind squirrels and deer for pennies on the dollar? Rugged Ridge's 13-inch LED lightbar throws over 6,000 lumens from both a driving and flood beam pattern and has an estimated life of over 30,000 hours.

**HOW MUCH:** \$240

**WHERE:** Rugged Ridge, ruggedridge.com



**18**

**19 WHAT:** Do you eat? Do you hold things in your hands in perpetuity? If the answers are yes and no, you probably use a table from time to time. Rock-Slide Engineering's Tailgate Table affixes to any vertical surface in your vehicle (like your Jeep's tailgate) to provide an easily accessible fold-down table at the flip of the wrist.

**HOW MUCH:** \$180

**WHERE:** Rock-Slide Engineering, 435/752-4580, rockslideengineering.com

**20 WHAT:** The CB craze of the 1970s may be over, but the need to stay in touch with the outside world and your fellow wheelers isn't. Firestik offers antennas and mounts for just about any application—even if you don't have a convenient place to put it—with high-performance antennas will help you reach out for help when you really need it most.

**HOW MUCH:** \$109

**WHERE:** Firestik, 602/273-7151, firestik.com **FW**



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# MAJOR VALUE FOR MODEST COIN

## Best Buys: \$250-\$500

By **Henry Mueller** [editor@fourwheeler.com](mailto:editor@fourwheeler.com)

Photography: Courtesy of the manufacturers & *Four Wheeler* staff

**I**F YOU'VE GOT SOME FOLDING MONEY TO SPEND but don't want to reach too far into overdraft, the options for great off-roaders' gifts in the \$250-\$500 range are abundant. Here's just a few ideas we'd love to see wrapped under the tree Christmas morning.



1

**1 WHAT:** A press is just one of those tools you never thought you couldn't do without, but that once you own one, you discover you can't do without. While you're untangling that one, we'll recommend Harbor Freight Tools' durable, yet inexpensive 20-ton model.

**HOW MUCH:** \$260 (list price but can often be had for much less)

**WHERE:** Harbor Freight Tools, 800/423-2567, [harborfreight.com](http://harborfreight.com)



2

**2 WHAT:** It's always nice when somebody has your back to pull you out of a sticky situation. That's what a winch does in terms of the off-road hobby. It's your big buddy with the set of brass knuckles. Feel free to run your mouth off, 'cause no matter what you get yourself into, it'll pull you to safety. The Smittybilt XRC 9.5 winch offers 9,500 pounds of pulling power with a price that won't put you in the poorhouse.

**HOW MUCH:** \$299

**WHERE:** Smittybilt, 888/717-5797, [smittybilt.com](http://smittybilt.com)



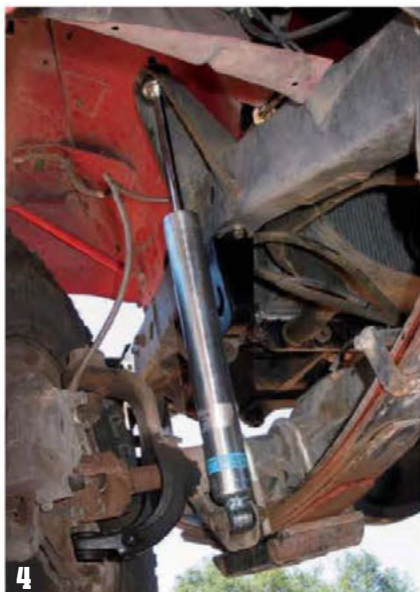
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**3 WHAT:** With a width of almost 18 inches, you won't be squeezing the Yeti Tundra 65 cooler behind the rear seat of a two-door Jeep, but if that's what you're after, the company has smaller offerings. Still, Yeti's Tundra 65 is a great size for multi-day expeditionary camping and wheeling. And with heavy-duty latches and O-ring seals, it's so durable you'll be passing it down to your grandkids.

**HOW MUCH:** \$399

**WHERE:** Yeti Coolers, 512/394-9384, [yeticoolers.com](http://yeticoolers.com)





4

**4 WHAT:** A harsh ride, wallowy handling, or chattery tire movement can all be fixed by a quality set of shocks. The Bilstein 5100 monotube shocks are available for a wide variety of vehicles, tuned specifically for each application. Give the gift of a great ride.

**HOW MUCH:** About \$360 for a set of four, depending on application

**WHERE:** Bilstein, bilsteinus.com

**5 WHAT:** A set of wheels can make or break the way your vehicle looks, but cheap aftermarket or weak factory aluminum wheels hold the potential to break in an entirely different way. For the utmost in bashability, it's hard to go wrong with a set of plain steel wheels. Pro Comp's Rock Crawler wheels in black powdercoating look great, are super strong and durable, and are made in the USA.

**HOW MUCH:** Roughly \$100 each or \$400 for a set of four

**WHERE:** Pro Comp, 800/776-0767, procompusa.com



6



7



8

**6 WHAT:** You can never have too much stuff—that is, until you have to get it from point A to point B. The Yakima Load Warrior roof rack makes that task a bit easier, with a generous 44x39x6.5-inch capacity. It'll accept Yakima's bike, ski, canoe, and other rack

systems atop its rails, and the company even offers off-road-specific mounts for items such as Hi-Lift jacks, axes, shovels, and lights.

**HOW MUCH:** \$251

**WHERE:** Yakima, 888/925-4621, yakima.com

**7 WHAT:** Heading off into the great outdoors means you've got to bring everything you'll need with you, including compressed air to repair flats or air up tires. Viair's Constant Duty onboard air system includes everything you'll need to outfit your 4x4 with a continuous supply of compressed air for a reasonable price.

**HOW MUCH:** \$399

**WHERE:** Viair, 949/858-0011, viaircorp.com

**8 WHAT:** Doing any heavy hauling? To help keep the rear from squatting and the headlights from pointing at the treetops, Firestone's Ride Rite air bag system can be easily installed to provide additional load-carrying capacity. Application-specific kits are available with compressor, bags, brackets, in-cab switch, and everything else required for installation.

**HOW MUCH:** About \$316, depending on application

**WHERE:** Firestone, 800/247-4337, riderite.com



**9 WHAT:** If you know somebody with a lifted GM truck with independent front suspension, chances are they're constantly chasing worn steering tie-rod ends and idler arms. The Cognito Motorsports GM pitman/idler arm support kit adds a double-shear mount to help support the factory components and prevent wear. It's just the ticket to avoid replacing all your tie-rod ends every 20,000 miles.

**HOW MUCH:** \$290

**WHERE:** Cognito Motorsports, 866-426-4648, cognitomotorsports.com

**10 WHAT:** Got an '03-'08 Dodge Ram 2500 or 3500 pickup that wanders all over the road and eats tires for lunch? There's a fix for that. Converting from the older Y-shaped linkage to the '09-up T-shaped linkage will go a long way toward improving your Ram's steering. The tie rod and drag link parts (PN 52122362AL) are available through your dealership, but we found them at Diesel Power Products as well. Don't forget the '09-up pitman arm (PN 68039930AA) while you're at it.

**HOW MUCH:** \$465 with pitman arm

**WHERE:** Diesel Power Products, 888/993-4373, dieselpowerproducts.com

**11 WHAT:** Want a carburetor that's tailor-made to work well on rough terrain, angles, inclines, and heavy hits? The Holley Truck Avenger is available in 470, 670, and 770 cfm models to support a wide range of engine sizes, no matter the terrain.

**HOW MUCH:** \$464

**WHERE:** Holley, 866/464-6553, holley.com

**12 WHAT:** Nobody likes to be kept in the dark, especially when it comes to what's going on under the hood of that hard-working 4x4. Upgrade or add to your factory gauges by installing a matched set of Auto Meter mechanical or electric gauges. They're available in a wide range of styles with options to cover just about any item you could imagine needing to keep tabs on.

**HOW MUCH:** Starting at \$270/set

**WHERE:** Auto Meter, 866/248-6356, autometer.com



9



10



11



13

**13 WHAT:** Performance Distributors offers its much-upgraded DUI (Davis Unified Ignition) distributor for a wide range of engines. Custom-tuned with a spark curve specific to each individual order, a much hotter spark allowing plug gaps up to 0.065-inch, and a wide cap that resists arching, adding a DUI distributor is as close as you can come to visiting a custom dyno-tune facility.

**HOW MUCH:** About \$385, depending on application

**WHERE:** Performance Distributors, 901/396-5782, performedistributors.com



14

**14 WHAT:** Being a kingpin is probably pretty nice, but being a kingpin steering arm can be hazardous to your fasteners. That is, unless you're talking about Artec Industries' Ultimate Dana 60 steering arms. They come with five-bolt mounts for use with aftermarket or stock knuckles and use a double-shear mount that ties the tie rod and drag link into the factory mount for the ultimate in strength.

**HOW MUCH:** \$330/pair

**WHERE:** Artec Industries, 855/ARTEC99, artecindustries.com



12



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**15 WHAT:** Normally you don't want a present that sucks, unless you're talking about your engine's ability to suck in more air. Airaid has a high-performance cold-air intake for your engine, guaranteed. If not, Editor Hazel will more than double your money back. (Editor's note: No, I won't. Mueller, you're fired.)

**HOW MUCH:** About \$285-\$350, depending on application

**WHERE:** Airaid, 800/498-6951, [airaid.com](http://airaid.com)

**16 WHAT:** If you're driving a late-model 4x4, chances are Bully Dog has a GT tuner that'll give you more power, mileage, and flexibility in turning on or off your OE function, can compensate for bigger tires or different gear, and so much more. It even includes a color screen with on-the-fly viewing capabilities.

**HOW MUCH:** About \$400, depending on application

**WHERE:** Bully Dog, 940/783-9915, [bullydog.com](http://bullydog.com)

**17 WHAT:** What's the hottest segment of the off-road market lately? LED lights and their ability to fry an oncoming deer at 1,000 paces. Some of the brightest available are the Vision X Light Cannons. We like the svelte 4.5-inch Light Cannons, which pack a lot of lumen punch in a manageable, mountable package that only draws about 25 watts.

**HOW MUCH:** \$499/pair

**WHERE:** Vision X, 888/489-9820, [visionxusa.com](http://visionxusa.com)

**18 WHAT:** Got Wood on Christmas morning? No? Wish you did? Tom Wood's Custom Drive Shafts can help with that. One of the longest running, most trusted names in the aftermarket driveshaft world, Tom Wood's pack tons of high-quality features into each custom-built unit, from Gold Seal U-joints, forged (not cast) CV assemblies, and more. Just call with your desired length and Tom Wood's will do the rest.

**HOW MUCH:** About \$360, depending on application

**WHERE:** Tom Wood's Custom Drive Shafts, 877/497-4238, [4xshaft.com](http://4xshaft.com)



**19 WHAT:** If you don't have the real estate for auxiliary lighting but still want to be able to spot oncoming hazards in pitch-black conditions at ridiculously long distances, Truck-Lite has replacement LED headlights that retrofit in place of your 7-inch round incandescent bulbs. They pull much less wattage than the factory bulbs, yet throw enough lumens to give the sun a run for its money.

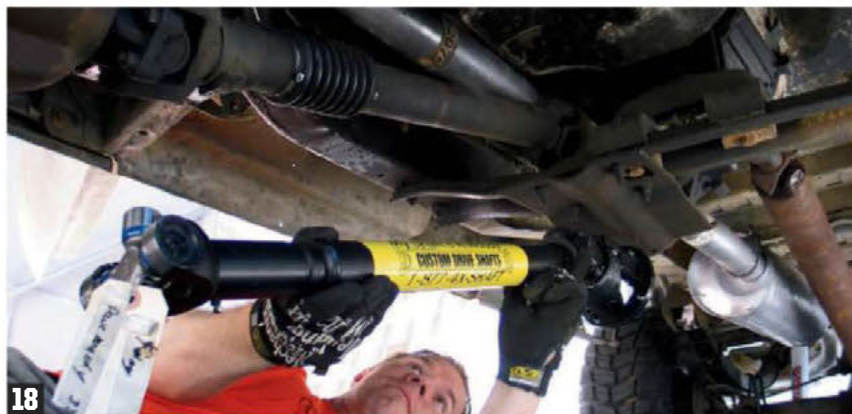
**HOW MUCH:** \$399/pair

**WHERE:** Truck-Lite, [truck-lite.com](http://truck-lite.com)

**20 WHAT:** Modern vehicles are great—until you try to hook any auxiliary-powered doodads to 'em. The sPOD is the solution, offering a clean underhood distribution box to which you can hook up your accessories. The only thing you need to run into the cabin is the control box containing the rocker switches. Many different styles and configurations are available from JK Wrangler-specific units to universal applications.

**HOW MUCH:** About \$435

**WHERE:** sPOD, 661/755-6549, [4xspod.com](http://4xspod.com) **FW**





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# FAVES FOR THE FAT-WALLET CLUB

## Best Buys: \$500-up

By Henry Mueller [editor@fourwheeler.com](mailto:editor@fourwheeler.com)

Photography: Courtesy of the manufacturers & Four Wheeler staff

**W**HETHER YOU'RE SEARCHING FOR YOURSELF OR SOMEBODY YOU REALLY, REALLY, REALLY CARE about, sometimes money is no object. So if you got to put the best gift that money can buy under the tree for your off-road addict but aren't sure what to get, we put together a must-have list that's sure to cover most bases.

**1 WHAT:** AEV's Rear Vision System for JK Wranglers comes in two versions: one for OEM navigation screens and another that includes a replacement rearview mirror with an integrated LCD screen. Either version drastically improves rearward vision and makes it possible to see with an oversized tailgate-mounted spare tire.

**HOW MUCH:** \$650-\$700

**WHERE:** AEV, 248/926-0256, [aev-conversions.com](http://aev-conversions.com)

**2 WHAT:** The ARB Fridge Freezers are crazy-durable, conveniently sized, and packed with features like LED interior light, integrated handles, and removable lid. The digital thermostat can be set from anything to a light chill to frozen solid, and the unit can operate on 12/24-volt DC or 120-volt AC current. They're available in 37, 50, 63, and 82-quart sizes.

**HOW MUCH:** \$850-\$1,300, depending on model

**WHERE:** ARB, 425/264-1391, [arbusa.com](http://arbusa.com)

**3 WHAT:** Even without the useful ability to cut metal without a ton of noise and effort, the sparks it throws is worth the entry fee alone. Miller offers plasma cutters in a range of sizes and capabilities, from the hobby-friendly Spectrum 125C (rated to cut 1/8-inch steel) up to the Spectrum 875 (rated 7/8-inch steel). However, for most at-home fabbers, the Spectrum 375 X-TREME or Spectrum 625 X-TREME will be plenty.

**HOW MUCH:** \$1,200 (Spectrum 375) to \$1,700 (Spectrum 625)

**WHERE:** Miller Electric, 920/734-9821, [millerwelds.com](http://millerwelds.com)



1



2



3





**4 WHAT:** If you've got a JK and you're disconcerted about the ride, check out Rock Krawler's 2.5-inch Max Travel System. The bolt-in suspension will clear 35s and includes high-clearance lower control arms, a bomb-proof 1.5-inch solid alloy front track bar, stainless brake lines, an upgraded rear track bar relocation bracket, front sway-bar disconnects, and Rock Krawler's excellent triple progressive-rate coil springs. The result is factory-like ride and handling with gobs of flex.

**HOW MUCH:** \$1,379 without shocks  
**WHERE:** Rock Krawler, 518/270-9822, rockkrawler.com

**5 WHAT:** Airing down is the best thing you can do for on-trail performance. To keep from slipping a tire off the wheel, Champion Wheel can convert your existing wheels into single or double beadlock wheels to cinch the tire bead firmly in place. We've never slipped an inner bead, so unless you're running an all-out competition rig, the regular outer beadlocks should be plenty.

**HOW MUCH:** \$980, or \$245 per wheel  
**WHERE:** Champion Wheel, 951/471-2183, championbillet.com



**6 WHAT:** Chevy Performance's 6.2L LS3 E-Rod package makes it absurdly simple to install a smog-legal 430hp, 424-lb-ft all-aluminum V-8 in any '95 or older vehicle. The E-Rod includes a brand-new engine, two different sets of exhaust manifolds, catalytic converter, wiring harness, EVAP system, air filter, MAP sensor, O2 sensors, electronic throttle, and more. Just add your front accessories, hook up the wiring, add fuel, and go.

**HOW MUCH:** \$7,950  
**WHERE:** Chevy Performance, chevyperformance.com

**7 WHAT:** Running a 1-ton Dana front and want the strongest, most stupid-proof axle-shafts you can get? Try a pair of RCV's Ultimate 300M CV Axles. Like the name implies, they're constructed from durable 300M chromoly, and the CV joint eliminates binding when turning. Without the elliptical rotation of U-joints, the RCV CVs are as strong turning as they are with the wheels straight. They come with a durable polyurethane seal.

**HOW MUCH:** \$2,950/pair  
**WHERE:** RCV, 815/877-7473, rcvperformance.com

**8 WHAT:** The Eaton E-Locker is a burly-strong electronically actuated selectable locker (open/spool) available for most popular Dana, AAM, and some Ford axles in factory and increased spline counts. They offer a simple installation with no special hoses, lines, or cables to route. Just hook up the switches and lock 'er up.

**HOW MUCH:** \$690-\$972, depending on model  
**WHERE:** Eaton, 800/328-3850, eatonperformance.com





**9 WHAT:** You don't always need a complete upgraded axle assembly, but if you're wheeling serious terrain with lockers and up-sized tires, you'll probably want axleshafts made of better material than factory. The G2 Axle & Gear Placer Gold-series axleshafts are forged of chromoly right here in the USA and are available in factory and up-sized spline counts for most common axle assemblies.

**HOW MUCH:** Roughly \$990/pair, depending on application

**WHERE:** G2 Axle & Gear, 310/900-2687, g2axle.com



**10 WHAT:** If you've already got a powerful 4.6hp motor wired inside your 9,500-pound Warn winch, why not use that motor to power an all-screw air compressor to deliver a whopping 5 cfm of compressed air at 90 psi. With a max air pressure of 100 psi, the Warn PowerPlant 9.5 combines one of the world's best winches with a super-fast onboard air compressor to operate pneumatic tools and air up tires.

**HOW MUCH:** \$1,690

**WHERE:** Warn, 800/910-1122, warn.com



**11 WHAT:** What T-case is durable, super-strong, relatively light weight, compact, can be had in a wide range of low-range ratios, and can be configured to work behind just about any transmission you can imagine? If you said Atlas T-case you'd be right. With no end of options from driver/passenger front output, 32-spline upgraded output shafts, all-gear internals, ratios including 1.5, 2.0, 3.0, 3.8, 4.3, and 5.0:1, and shifters and yokes for nearly any chassis, the two-speed Atlas T-case is the envy of any stock T-case.

**HOW MUCH:** About \$2,300, depending on options

**WHERE:** Advance Adapters, 800/350-2223, advanceadapters.com



**12 WHAT:** Converting from your antiquated carburetor to a fuel-injection system will give you night and day performance. And one of the easiest and least expensive aftermarket ways to do it is with a Professional Products Powerjection system. Aside from a pressurized source of fuel, a 12-volt hot ignition source, and a few wires for things like the O2 and a couple other simple sensors, the Powerjection fits right to any square-bore four-barrel manifold. And it's self-learning to adjust for aftermarket modifications.

**HOW MUCH:** \$1,560 alone or \$1,730 with fuel pump, filter, and lines

**WHERE:** Professional Products, 323/306-5067, professional-products.com



**13 WHAT:** Love long off-road exploration trips but hate setting up camp every night? Rooftop tents like the Smittybilt Overlander allow you to get your bed ready quickly by yourself. It's a one-man operation to open up the tent, and it has fully waterproof RipStop polyester with stainless hinges, anodized aluminum poles, and features a 60mm foam mattress, screens, and an LED strip light in the interior.

**HOW MUCH:** \$800

**WHERE:** Smittybilt, 888/717-5797, smittybilt.com



**14 WHAT:** LED lights have increased in durability, brightness, and options. Packing 50 Cree LEDs into a 50-inch-long 6063 aluminum housing, the Pro Comp SR48 single-row LED suck 178 watts to throw a scorching 15,360 lumens of light power. The flood/spot/comp pattern lightbar comes with two sets of mounting brackets, wiring harness, switch, and relay. Just wire and fire into the night.

**HOW MUCH:** \$925

**WHERE:** Pro Comp, 800/776-0767, procompusa.com





**15 WHAT:** If you've got an '07-up JK Wrangler, '99-present ¾- or 1-ton Dodge, or '92-present ¾- or 1-ton Ford, Dynatrac has a solid upgrade for your front axle wheel wobble problems. Built from heat-treated billet steel, fully greaseable, rebuildable, and with Teflon-coated internal wear points, these will definitely be the last ball joints you'll need to buy for your 4x4, no matter how hard you wheel it or how big the tires.

**HOW MUCH:** \$560/set

**WHERE:** Dynatrac, 714/596-4461, dynatrac.com



**16 WHAT:** Ever seen a factory cast knuckle break? We have, especially with high-steer arms. The Reid Racing knuckles for Dana 30, 44, 60, and GM 10-bolt axles are built from super-stout ductile iron and employ features like flat tops drilled and tapped for high-steer arms (three-to-five bolt holes depending on application), special conversion hub knuckles for Jeep Dana 30/44 Unitbearing applications, and many other upgrades over stock.

**HOW MUCH:** About \$600/pair, depending on application

**WHERE:** Reid Racing, 925/935-3025, reidracing.biz



**17 WHAT:** If you've added a larger-than-stock tire to your JK's factory tailgate-mounted carrier you're most likely deal with rattling, hard closing, the tailgate flexing and allowing dust into the cabin, or all of the above. The TeraFlex JK HD Hinged Carrier and Adjustable Spare Tire Mounting Kit replaces the factory carrier with an adjustable unit able to accept up to a 37-inch spare and a reinforcement plate that ties into the tailgate hinge location. The unit is built of lightweight cast aluminum and allows retention of your current factory or aftermarket bumper.

**HOW MUCH:** \$720

**WHERE:** TeraFlex, 801/713-3314, teraflex.com



amp alternator to replace your factory unit, control box, wiring harness, throttle control assembly, and battery clamp. As an added bonus, there's even a 115-volt AC power outlet.

**HOW MUCH:** About \$1,200, depending on application and model

**WHERE:** Premier Power Welder, 970/963-8875, premierpowerwelder.com

**20 WHAT:** You can never go wrong with a wad of cash, but if that seems a bit too impersonal, you can always go for a gift certificate from 4 Wheel Parts and let your off-road enthusiast browse the world of aftermarket upgrades from tires and wheels to lights and bumpers 'til their heart is content.

**HOW MUCH:** \$500-\$2500

**WHERE:** 4 Wheel Parts, 800/257-5629, 4wheelparts.com **FW**

**19 WHAT:** Wheel hard enough long enough or with enough people and sooner or later somebody is going to have to get welded up to get off the trail. The Premier Power Welder is a completely integrated onboard welding system that includes a high-

**18 WHAT:** Like power? Who doesn't? Better mileage? Well, yeah. Rust? Nobody likes rust. That's why you should give a present of a stainless steel Borla exhaust system. Cat-Back systems, including muffler and tailpipe, are available for virtually any vehicle worth its weight in fuel. Add in a stainless header and intermediate pipe and you'll have a free-flowing exhaust that'll last 'til the dinosaurs come back.

**HOW MUCH:** \$500-up, depending on application

**WHERE:** Borla, 877/462-6752, borla.com







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L7315/70R17 LR E \$322.99 L7305/55R20 LR E \$305.99  
37X12 50R17 LR D \$406.99 35X12 50R20 LR E \$392.99  
L7275/70R18 LR E \$331.99 37X12 50R20 LR E \$426.99

**Size Part Price**  
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33X12 50R15 50203 \$179.99  
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L7305/70R16 56305 \$229.99  
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**Size Part Price**  
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37X12 50R17 LT \$171237 \$349.99  
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L7265/70R17 \$264.99  
L7285/70R17 \$319.99  
L7305/65R17 \$319.99  
L7315/70R17 \$327.99  
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L7295/65R18 \$368.99  
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37X14 00 16LT \$340.99  
39 50X13 50 16LT \$421.99  
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38X13 50 16LT \$338.99  
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14x2 16 5LT \$354.99  
21x9 16 5LT \$350.99  
38X13 50 17LT \$330.99  
37X14 00 17LT \$343.99  
39 50X13 50 17LT \$420.99  
14x2 17LT \$353.99  
21x9 17LT \$377.99  
38X13 50 20LT \$330.99  
39 50X13 50 20LT \$431.99  
21x9 20LT \$348.99

**Size Price**  
31X12 50 15LT \$310.99 16/25 16LT \$421.99  
33X10 50 15LT \$300.99 37X13 00 16LT \$414.99  
33X12 50 15LT \$334.99 39 50X11 00 16LT \$378.99  
33X14 00 15LT \$345.99 15/28 5 16LT \$411.99  
35X10 50 15LT \$345.99 19 54x4 16LT \$273.99  
35X14 00 15LT \$382.99 33X12 50 16 5LT \$344.99  
16/25 15LT \$420.99 33X14 00 16 5LT \$354.99  
37X13 00 15LT \$419.99 35X14 50 16 5LT \$406.99  
38 5/11 00 16LT \$387.99 16/25 16 5LT \$429.99  
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16/25 15LT \$398.99 37X13 00 16 5LT \$422.99  
19 54x4 16LT \$758.99 37X13 00 16 5LT \$428.99  
31X12 50 16LT \$323.99 15/28 5 16 5LT \$406.99  
33X10 50 16LT \$312.99 39 50X11 00 16 5LT \$373.99  
33X12 50 16LT \$336.99 18/25 5 16 5LT \$368.99  
33X14 00 16LT \$346.99 19 54x4 16 5LT \$278.99  
35X10 50 16LT \$336.99 37X13 00 17LT \$435.99  
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L7315/75R16 \$270.99 L7305/55R20 \$341.99  
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**Size Price**  
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L7265/75R15 \$162.99 L7265/70R17 \$227.99  
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31X105R15 \$193.99 L7305/70R17 \$274.99  
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33X125R15 \$221.99 35X125R17 \$283.99  
33X125R15 \$264.99 L7235/60R17 \$208.99  
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L7245/75R16 \$202.99 L7275/65R16 \$314.99  
L7265/75R16 \$198.99 L7275/70R18 \$339.99  
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👉 The Wild Horses half-door inserts work with soft half-doors and the full Bestop soft top. They allow great visibility on the trail and match the body lines of the Bronco much better than the square openings when the factory full doors are removed.







# BOUGHT BRONCO

Are real rigs built or bought?

By Harry Wagner [editor@fourwheeler.com](mailto:editor@fourwheeler.com) Photography: Harry Wagner

**Z**ACH OBERLANDER WORKS WITH CARS ALL DAY AT HIS BUSINESS, Autobahn Automotive. So understandably, the last thing that he wants to do in his free time is spin wrenches. Instead Zach keeps an eye out for good deals on cars, boats, and 4x4s that someone else has already put the time and money into. His latest purchase was this '71 Bronco, which was originally built by Nick Vona. When the racing bug bit Nick, he traded the Bronco to Travis Carpenter for Carpenter's Ultra4 buggy. However, Travis was looking to start a business and didn't have the Bronco long before Zach scooped it up. "He handed me a stack of receipts that totaled over \$10,000 for the engine alone!" Zach recalls.

The money was used to build a stout 347ci stroker engine. Tony Hews of Hews Performance built the small-block Ford with a Scat forged rotating assembling, AFR 185 aluminum heads, and a Comp Cam camshaft and roller rockers to produce an estimated 450 hp. The engine is topped by a FAST fuel-injection system that allows it to operate at any elevation and any angle on the trail. Of course, there is more to this Bronco than just the engine, and the rest of the drivetrain is just as impressive. A bulletproof NP435 transmission routes power to the dual T-cases, consisting of an NP203 range box mated to the factory Dana 20 using components from Advance Adapters. The axles are still a high-pinion Dana 44 in front and a Ford





9-inch in the rear, but they have been upgraded in every way imaginable. The front uses a larger Dana 50 ring gear from Jantz Engineering around an ARB Air Locker with RCV chromoly axleshafts tossed into the mix. Out back, 35-spline chromoly axleshafts from Moser and a Detroit Locker are more than enough to reliably handle the 38-inch-tall Goodyear MT/Rs.

The Goodyears stay in contact with the ground in nearly all conditions thanks to the custom suspension from Silly Fab Service (SFS) in Rancho Cordova, California. Phil

Licciardi of SFS extended the front radius arms with DOM tubing and rod ends to allow for more wheeltravel, less camber change as the suspension cycles, and less binding with the Wild Horses coil springs and Fox 2.0 shocks. Out back, the leaf springs were ditched in favor of a coil suspension that uses very similar components to the front for balanced articulation on the trail. The same coil springs and Fox shocks are used in the rear, but without steering to worry about, SFS was able to build a triangulated four-link to locate the 9-inch axle. Using a triangulated suspen-

sion in front was not an option with the traditional steering box and crossover steering, as the suspension would cycle in a different plane than the drag link, resulting in massive bumpsteer. That was not recommended on the trail, and it definitely would not work on a rig like this that sees the pavement as well. There is an old adage that “real rigs are built, not bought,” but if you want to hit the trails tomorrow and can save money over buying parts new, it is hard to argue against buying a built rig. While his friends are in the garage throwing wrenches, Zach is out enjoying his “bought” Bronco.

## ➤“WHILE HIS FRIENDS ARE IN THE GARAGE THROWING WRENCHES, ZACH IS ENJOYING HIS ‘BOUGHT BRONCO.’”

**1.** Power comes from a potent 347ci stroker with a forged Scat rotating assembly and AFR 185 heads. Under the K&N filter, a FAST fuel-injection system provides the mixture, while the Mallory billet distributor and wires light the fire. Note how the inner fenders have been lowered to provide more room for the dual Optima RedTop batteries and the ARB twin compressor.

**2.** The front axle is a high-pinion Dana 44 that has been heavily beefed to survive big horsepower and big tires. It uses an ARB Air Locker and 4.56 gears behind the RuffStuff diff cover, and RCV chromoly axleshafts route power to Warn Premium hubs.





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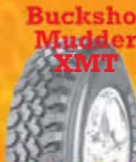
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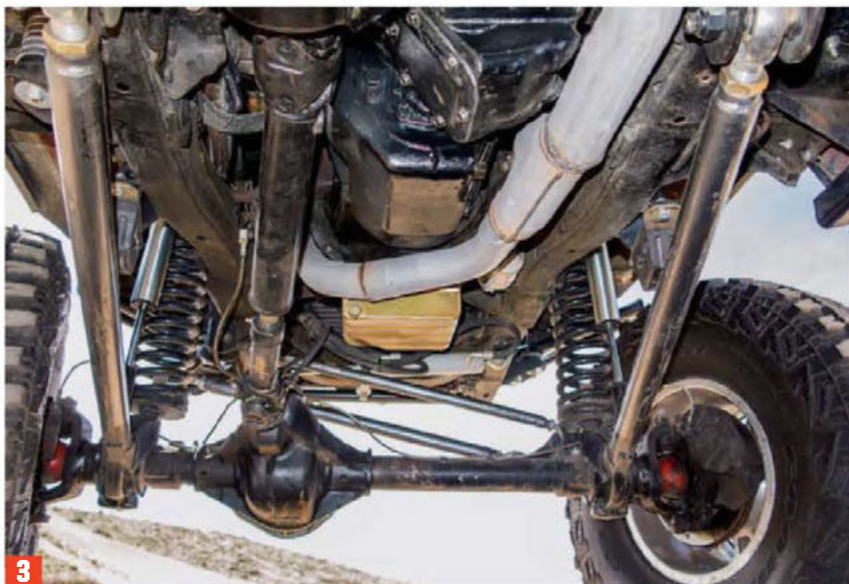
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**3.** The clamshell-style radius arms were retained in front, but Silly Fab Service replaced the short factory cast arms with 2-inch-diameter, 0.250-wall DOM tubing fitted with rod ends from RuffStuff Specialties. The current arms are nearly a foot longer than the factory radius arms.

**4.** Wild Horses coil springs provide 5½-inches of lift and have a progressive rate for a smooth ride over small bumps without being too soft for trail duty. The springs work in conjunction with 2-inch-diameter, 14-inch-travel Fox shocks.

**5.** Little details like the billet tie rods and rod ends that connect the 'cage to the windshield really highlight the level of detail in this build. The tie rods help to support the windshield and provide a more solid mounting point for the front of the soft top.

**6.** A Smittybilt XRC10 winch is mounted to the front bumper to get Zach (or his friends) out of any situation they might find themselves in. The winch is fit with Smittybilt synthetic winch line and a polished aluminum fairlead. A wireless remote allows the winch to be operated from anywhere within 100 feet of the vehicle.



**7.** The four-wheel disc brakes are powered by a hydroboost brake setup that takes up less space than a traditional brake booster. Braided stainless lines are used for the plumbing, and a PSC Motorsports steering pump provides enough pressure and volume to keep up with the hydroboost brakes and hydraulic-assist steering.

**8.** The Wild Horses Gear Banger shifter rows the NP435 that sits in front of a NP203 and a twin-stick Dana 20. The T-cases are bolted together with an adapter from Advance Adapters. Above the shifters, Auto Meter gauges and a billet steering column from Ididit were added to the stock dash.







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**9.** LED lights are used throughout the Bronco, not only for the headlights but also for the interior lights, taillights, and rock lights. Controls for the rock lights are conveniently located in easy reach on the 'cage tubing.

**10.** The cool double-shear pitman arm was fabricated by Phil Licciardi at Silly Fab Service and connects the PSC quick-ratio steering box and PSC hydraulic-assist ram. The steering is an inverted-T arrangement with a tie rod and drag link constructed from DOM tubing and rod ends from RuffStuff Specialties.

**11.** Out back, a heavily trussed Ford 9-inch uses a nodular third member with 4.56 gears and a Detroit Locker. Beefy 35-spline Moser chromoly axleshafts are used along with disc brakes from Tom's Bronco Parts for a strong package with excellent ground clearance and minimal weight.

**12.** The rear suspension uses a triangulated four-link with an axle truss built by Silly Fab Service. The links are constructed from 2-inch-diameter, 0.250-wall DOM tubing and rod ends from RuffStuff Specialties. Just like the front, the rear links work in conjunction with Wild Horses coil springs and Fox shocks to create a very balanced suspension.



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**13.** Rolling stock consists of 38-inch Goodyear MT/R tires wrapped around Raceline Monster beadlock rims. Clearance for the tires comes from Wild Horses 5-inch-lift coils, a 2-inch body lift, and Wild Horses Gorilla War Flares.

**14.** The six-point 'cage was built by CRAB from 1¼-inch, 0.120-wall DOM tubing. The rollcage allows use of a Bestop soft top and keeps Zach and his passengers safe in conjunction with MasterCraft Safety suspension seats. A Tuffy console sits between the front seats, while another Tuffy box provides lockable storage behind the MasterCraft bench seat.



13

## ▶ AT A GLANCE

### GENERAL

**Vehicle:** '71 Ford Bronco  
**Owner:** Zach Oberlander  
**Stomping grounds:** Northern California  
**Build time:** Four years

### DRIVETRAIN

**Engine:** 347ci Ford V-8  
**Transmission:** NP435 four-speed manual  
**Transfer case(s):** NP203/Dana 20 doubler  
**Low range ratio(s):** 1.96:1; 2.46:1; 4.82:1  
**Crawl ratio(s):** 59.7:1; 74.9:1; 146.9:1  
**Front axle/differential:** High-pinion Dana 44 with Jantz Dana 50 4.56 gears, ARB Air Locker, RCV axleshafts, and Warn Premium hubs  
**Rear axle/differential:** Ford 9-inch with 4.56 gears, Detroit Locker, 35-spline Moser chromoly axleshafts

### SUSPENSION

**Front:** Extended radius arms with Wild Horses progressive-rate coils and Fox 2.0 shocks  
**Rear:** Triangulated four-link with Wild Horses progressive-rate coils and Fox 2.0 shocks  
**Steering:** PSC steering box, pump, reservoir, and hydraulic-assist ram, SFS steering links with rod ends

### TIRES/WHEELS

**Tires:** 38x14.5R17 Goodyear Wrangler MT/R  
**Wheels:** 17x9.5 Raceline Monster beadlock

### MISCELLANEOUS

**Cool stuff:** Smittybilt XRC10 winch with wireless remote, custom tubular bumpers front and rear, Wild Horses rock skis, CRAB 'cage, Auto Meter gauges, MasterCraft Safety suspension seats, half-door inserts, hydroboost brakes, satellite radio, ARB dual air compressor, dual Optima RedTop batteries, Truck-Lite LED headlights, Tuffy console **FW**



# BUG-OUT BLAZER

Introducing our apocalyptic escape module, B.O.B.

By Ben Battles [editor@fourwheeler.com](mailto:editor@fourwheeler.com) Photography: Ben Battles

**LETS FACE IT: WE'VE BECOME A COUNTRY OF NANCYS. THAT'S RIGHT—** a bunch of Hula Hooping, tie-dye-shirt-wearing, vegan-diet, hybrid-driving, hairless-chested Nancys. Now, if you're reading this and you haven't choked on your meat-flavored tofu yet, you most likely fall into the minority and do not fit the criteria of this mass-generalization. Congratulations, you don't need to drop and give me twenty, and I can take my R. Lee Ermeey gunny-hat off now.

Now to the point: If you're a 4x4 enthusiast and of the general outdoors persuasion, you'd probably be lying if you said you've never pondered the thought of needing to put your rig into active duty during a time of emergency. Don't worry; it doesn't make you a nut job. It's better to have and not need than the other way around, as the saying



🔗 Welcome home, B.O.B.! Fresh from the West Coast, B.O.B. had been East-bound down for a week straight on the back of an auto transport trailer to finally land in our New Hampshire driveway. If you're tossing around a similar idea, be sure to shop around for a shipping company that combines a solid reputation with an affordable quote. Some quotes were twice what we paid and from shippers with less-than-stellar feedback.







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- *Jason Carner*, Owner, Blue Torch Fabworks

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Fullsize two-door SUVs are sort of an anomaly these days, but if you sit back and think how much utility these things bring to the table for the outdoorsman—sans the added length of two additional doors to make them cumbersome in tight confines—they make a heck of a lot of sense. Topside real estate is huge and provides an ample spread for kayaks, storage racks, or rooftop sleeping accommodations.

goes. Being prepared for the worst, but hoping for the best, is America's M.O., and being a prepared American is, well, pretty American.

When shifting gear from fight to flight, considerations of what's important in a vehicle that can help sustain you and your family in times of turmoil can really be boiled down to the attributes that will facilitate self-sufficiency. These include, but are not limited to, gear storage, path-less-traveled capabilities, adequate emergency sleeping quarters, being

at least somewhat nimble in densely-wooded regions, bulletproof reliability (figuratively and, depending on how serious you are, maybe even literally), and the ability to mow down or bust through a hoard of zombies or would-be pillagers as if your life depended on it—all of which requires a bigger hammer than a Toyota RAV4.

Enter the '73-'91 Blazer: Our escape-and-evade tool of choice for impending doom. No matter the year, solid axles, stout drivetrain

components, ample power, a healthy physical presence, and simplistic reliability are all highlights of the breed. Of course, we can't forget about similar rigs like the Dodge Ram-charger and Ford Bronco (especially the solid-axle '78 and '79 versions), but due to their availability, popularity, and corresponding level of aftermarket support, we decided to go GM this time around. We were on a mission to track down a clean '73-'91 fullsize Blazer that didn't need major sheetmetal surgery,



You are looking at the reason we no longer have new, fullsize two-door SUVs sitting on dealer lots: America plum got lazy and no longer wanted to squeeze their behinds through this sizeable gap. Compared to a Wrangler, accessing the rear seat of a fullsize Blazer is an absolute cakewalk, and if you leave the space between the front seats free and clear, you can roam around the cabin with near the same ease of a minivan. What's not to like?



If you're accustomed to shoehorning all your gear in a Jeep Wrangler, the cavernous depths of a fullsize SUV will leave you feeling spoiled. The interior quarters of B.O.B. are nearly large enough to park a Suzuki Samurai in, and we'll be putting every square inch of it to good use in upcoming issues.



but thanks to healthy doses of winter road salt in the Northeast, finding old-iron with its original sheetmetal intact and in good shape is like trying to find a lawyer with a good moral compass—they're few and far between. Craigslist and eBay are always decent resources, but sometimes the best deals you'll find are hiding in the grass root-type forums, like coloradok5.com (or CK5, as it's known). This is where we discovered our '88 Blazer we'll be turning into an end-of-world survival platform, or B.O.B., as we'll refer to it from here on out.

Its sheetmetal was original and rust free, it had a factory-equipped SM465 four-speed manual tranny attached to a throttle-body-injected 350ci V-8, and was in above-average shape from bow to stern. After striking a deal over the phone, B.O.B. was shipped clear across the country to New Hampshire. A week later it showed up on our doorstep, just as you see here.

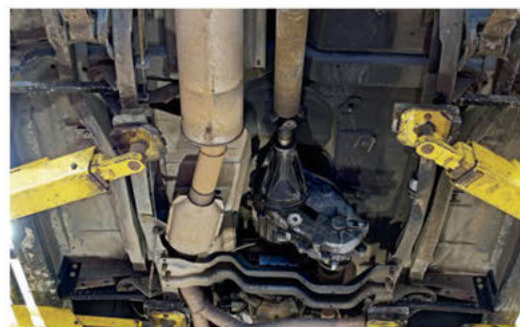
The plan for this build? The goals are pretty simple really: reliability, fix-it-yourself simplicity, and off-road capability. Parts that are known for their durability—those that tend to survive when tested beyond practical means—are the ones that make the cut. This, and with a “when in doubt, over-build the bejeezus out of it” mindset steering our direction, we should end up with a rig that'll be damn near impervious to an apocalypse.

To give you an idea of where our heads are at with this build, we'll be pairing the lowest center of gravity possible with the biggest meats we can squeeze in the fenderwells and without going gonzo with the Sawzall. Tire size will be kept in the realm of reasonability (thinking 37-38 inches), and we'll tailor the suspension, steering and drivetrain to suit. You can count on seeing top-notch storage solutions, sleeping accommodations, and probably (OK, definitely) a home-brew gun



⚙️ Up front in the cockpit, not much has changed since 1988, save for a Pioneer CD player, trailer brake controller, and a bitchin' LMC Truck ashtray cupholder. While rowing the gears of the SM465 four-speed isn't quite as graceful as some of the newer heavy-duty transmissions, the “granny low” First gear, ability to laugh off abuse, and the general warm-'n-fuzzy feeling it gives us makes it a huge bonus and a keeper in our book.

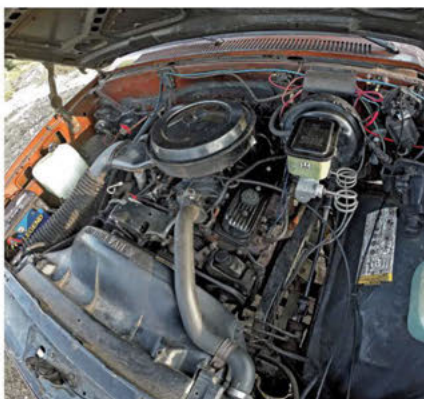
rack or two. The convenient thing about this particular series is that the same build principles can be applied to the K5's brethren of the same era. Whether it's a pickup or Suburban, commonality between the '73-'91 solid-axle rigs runs strong. In the end, you can take this article series as a tongue-in-cheek guide to building a capable backcountry trail/camping/hunting rig, or you can take the “bug-out” angle literally. Doesn't matter; our efforts will steer you in the right direction either way.



⚙️ I was too young to care what factory floorboards and frame paint looked like in 1988, but today, it classifies as a rare and glorious sight here in the rust belt. West Coast guys might be yawning right now, but for a rig residing in the Northeast, B.O.B. is remarkably fresh looking from tip to tail. To ensure it stays this way, we'll be putting it to bed for winter hibernation before each snowfall.



⚙️ We're not quite sure if these are home-brew rock sliders or once-available aftermarket units, but either way, we'll take 'em. We didn't bother to ask the previous owner where these things came from, but they're surprisingly stout, well constructed, and provide a good step for reaching rooftop cargo, so they'll stay. The iconic 1980's Yosemite Sam “Back Off!” mudflaps, however, did get the heave-ho—we have to draw the line somewhere.



⚙️ Often referred to as “the carburetor of fuel injection,” the factory throttle-body injection atop B.O.B.'s 350 powerplant (while not conducive to big power gains with aftermarket engine and/or injection components) is eminently simple and sledgehammer reliable. Additionally, B.O.B.'s previous owner kept up to date on all underhood maintenance, which paves a smoother road for us up ahead.



'MERICA! 'Nuff said. FW



By Ken Brubaker ken.brubaker@fourwheeler.com Photography: Ken Brubaker & David Brubaker

**D**O YOU LIVE IN AN AREA THAT GETS snow and ice? If so, you may be very interested in Cooper Tire & Rubber Company's fascinating new Discoverer A/TW tire. Why? Well, this all-terrain tire has been infused with features that enhance its performance in the white stuff.

Cooper says that the A/TW far exceeds the standards set to achieve the severe winter rating for superior snow capability. What's the story with the rating? Well, this rating is earned only if a tire achieves at least 10 percent more acceleration grip compared to an industry benchmark tire. Features that help the A/TW excel in snow and ice include Micro-Gauge Corrugated Siping (this is high-density siping that offers numerous biting edges that are critical to gaining traction on snow and ice), SNOWGROOVE 2.0 Technology (opposing grooves on the edges

of the tread elements act as gripping agents in snow conditions to help hold more snow in the tread, which in turn acts to create snow-on-snow grip that is stronger than just rubber-on-snow traction), and Coupled Silica Compound (unique polymers, silica, and other materials coupled together in such a way as to improve wet grip, ice traction, and rolling resistance).

Was the A/TW only designed as a winter tire? Nope. Its heart is an all-terrain tire, and Cooper says it has the same overall sidewall and tread construction as the durable Discoverer A/T3 all-terrain tire. The A/TW sports features designed to keep you moving in the mud, sand, rocks, and loose soil, including Chevron Grooves (four wide circumferential grooves to provide a large number of biting edges and provide self-cleaning) and Cut & Chip Compound Additives (unique additives in the tread compound that resist the tread's tendency to be cut and chipped in off-road, aggressive gravel, flint, or other stony driving conditions).

Naturally, street manners were also a critical factor in the A/TW's design. Twin Tie-

Bars provide added stability to the tread elements and reduce stone retention, large lateral grooves aid in water evacuation from the tread footprint, which improves hydroplane resistance, and there's Computer Optimized Pitch Sequence, which means the pitch sequence of the tread elements are specially arranged to evenly disperse pattern-generated noise for reduced in-vehicle noise.

All this sounds impressive, but how does the A/TW work in the real world? Well, we had the chance to test the tire long before it became available to the general public. Cooper offered us a set of A/TWs at the tail end of winter in 2014, and this gave us some real-world experience with the tire over the course of several months in a variety of conditions. The tires we tested, a set of E-rated LT265/70R17-size tires, were installed on a set of 8.5-inch-wide Dick Cepek Torque wheels bolted on to our '05 Dodge Power Wagon.

Full disclosure: The tires arrived at our northern Illinois *Four Wheeler* midwest bureau two days before all the snow had melted from the 2014 winter season, so snow testing

# COOPER DISCOVERER A/TW

This winter all-terrain is more than a one-trick pony







❑ Snow testing was limited, but the experience was positive. The A/TW performed well, proving that it lives up to its billing as a severe winter rated tire. We'll soon continue testing the tire in full-blown winter conditions, so check [fourwheeler.com](http://fourwheeler.com) for updates.

was quick and limited. We had the opportunity to do some low-speed testing in about 3-4 inches of granular snow that had been through numerous freeze/thaw cycles. Traction with the tires at 50 psi (max for the tire we tested was 80 psi) was very good, and the A/TWs bit into the snow and propelled the truck forward far better than we had anticipated. So good in fact, that during testing to climb a steep 4-foot-tall snow pile created by plowing, the tires didn't spin and throw snow for a photo as anticipated. Instead, they bit into the snow and helped to launch the truck onto the top of the pile, which then high-centered the rig leaving all four tires off the ground. About the time you read this, snow will be reappearing and we'll be testing the tires further in an effort to ascertain a number



❑ The A/TW isn't a one-trick winter pony. It performed admirably on the trail as well. We treated the tire badly, but it never let us down. Traction was very good, and the Twin Tie-Bars helped reduce stone retention.

#### **SPECIFICATIONS\***

**Tire:** Cooper Discoverer A/TW  
**Size:** LT265/70R17  
**Type:** Radial  
**Load range:** E  
**Max load (lbs):** 3,195 (SRW), 2,910 (DRW)  
**Sidewall construction:** Two-ply  
**Tread construction:** One-ply nylon, two-ply steel, two-ply polyester  
**Approved rim width (in):** 7.0-8.5  
**Tread depth (in):** 16.5/32  
**Tread width (in):** 8.58  
**Section width (in):** 10.9  
**Overall diameter (in):** 31.65  
**Maximum psi:** 80  
**Weight (lbs):** 51  
 \*As tested

of things, including handling at speed and braking traction on both ice and snow, so keep an eye on [fourwheeler.com](http://fourwheeler.com) for a testing update on the A/TW tire.

As stated earlier, the A/TW isn't just a winter tire, so it was important to see how it handled and how well it wore when not on snow and ice. We put thousands of road miles on the tire throughout the summer and found it to

be a well-wearing, very smooth tire. It was very quiet at speed thanks to the Computer Optimized Pitch Sequence, and when tossing the Power Wagon through corners, the tire provided ample traction. We had no complaints when driving in the rain in regards to handling, accelerating, or braking. Even on

wet pavement, in two-wheel drive, with an empty cargo bed, the tires stayed connected to the ground to propel the truck forward even under mid-heavy throttle. Prior to this, we've tested tires in the same situation and they've lost traction on wet pavement, which required us to use four-wheel drive.

We purposely mistreated the A/TW off-road. On one of our rutted test trails we stuffed the sidewalls into the rock-and-dirt rut walls repeatedly in an effort to test sidewall durability. No problems there. We also purposely took the wrong line off-road to see how the tires would perform, like perching the tread of the tire on the edge of the dirt ruts to gauge the lateral traction of the tire. The tire stayed put, at least until the rut wall collapsed. We were surprised at how well the A/TW shed mud. It's no mud tire, but it did very well at cleaning itself when wheelspin was applied. We figured that the tire would load up with mud due to the SNOWGROOVE 2.0 Technology that was designed to hold snow in the tread. Interestingly, that wasn't the case. We were able to maneuver in thin, greasy, spring-time mud with no problem and far better than a standard street tire.

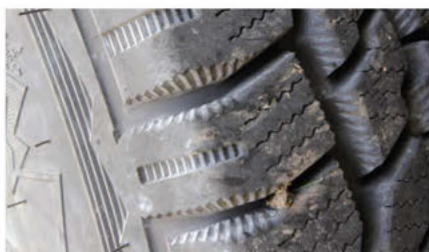
In the end, we can't find a reason to not run the Discoverer A/TW on a 4x4 that is used in climates that experience snow and ice. Our testing (so far) hasn't provided us with any glaring downside to the tire, either in winter or summer. We'll have more in a future update on [fourwheeler.com](http://fourwheeler.com), so stay tuned. The A/TW is available now at Cooper dealers.

## **A/TW Sizing**

➤ At this time, the A/TW is available in 10 SUV sizes and 13 light-truck sizes in 16-20-inch wheel diameters. Cooper says that in March 2015, it will roll out five new sizes for SUVs in 16 and 17-inch wheel diameters and four new light-truck sizes for 16-18-inch wheel diameters. **FW**

## **SOURCE**

**Cooper Tire & Rubber Company**  
[coopertire.com](http://coopertire.com)



❑ In this close-up image, you can see the dual-angled SNOWGROOVE 2.0 Technology inside of the A/TW's tread blocks. This helps to pack in snow to create the important snow-on-snow traction. It's also noteworthy that the Micro-Gauge Corrugated Siping extends the depth of the tread block so even as the tire wears, it'll offer consistent performance.



❑ Airing down is a fact of life for us wheelers. On the left, you can see the A/TW perched on a rock with the tire aired to 50 psi. On the right you can see the nice increase in footprint when the same tire was aired down to 18 psi.





# WATER SPOR



## Swamp buggy madness at the 2014 Winter Classic

By Ken Brubaker [ken.brubaker@fourwheeler.com](mailto:ken.brubaker@fourwheeler.com) Photography by Ken Brubaker

**S**OME OF THE GREATEST inventions were created out of necessity. The toothbrush, for example, and the swamp buggy. Wait, swamp buggy?

To those who live in Florida (you know, “Floridians”), the swamp buggy is a big deal and has been for years. You see, unlike most other states, Florida sports a vast amount of land that is covered by water and mud (also snakes and alliga-

tors). Hence, a long time ago, Floridians who wanted to explore and/or hunt the backcountry invented buggies that could penetrate the swamps. Naturally, it wasn’t long before the owners of these machines were challenging each other to races (funny how that works). It is said, that in 1943, hunters were racing their buggies through muddy potato patches just to see who had the faster buggy. By the late 1940s, 30 to 40 of these

buggies would be gathered together the week prior to hunting season to race for what was usually a new shotgun donated by local merchants. The first “official” swamp buggy race, with a field of almost 50 competitors, was held in 1949, and it was a big deal. There was a parade through the town of Naples, Florida, and all the shops closed for the day.

Swamp buggy racing is still a big deal, and the place to see

it is The Florida Sports Park, which is located near Naples, the locale where swamp buggy racing originated. The specially designed 100-acre park was completed in 1985, and it’s a celebration of all things swamp buggy. The main attraction is the huge racecourse, the majority of which is covered in 17-19 inches of water. The course also sports two “sippi” holes, which are 5½ feet in depth. Just like most other forms of racing, the idea is



# TS



☞ Staying dry isn't an option for those in Jeep-class vehicles. They're either getting slathered in copious amounts of water spray or submerged up to their chests in water. This rig is navigating one of the two sippi holes on the course.

☞ This is what happens when a two-wheel-drive go-fast buggy doesn't carry enough speed over a sippi hole. This is a rare occurrence, and the heavier rear of the rig drops like a rock into the hole and the driver gets a view of the Florida sky. If the rig is waterproofed correctly, the engine will keep running, and the machine will slowly move forward until the rear tires contact the shallower part of the course.



☞ Here, a group of Jeep-class buggies navigate the course at the beginning of a race. This class uses a land-rush start from the start line. Speedy? Sorta. Fun to watch? You bet. Visuals include lots of flying water and the soundtrack of the Jeep four-cylinder engines.

simple: The fastest buggy around the course is the winner. Sometimes getting around this aqueous course isn't so simple, however.

The swamp buggies that race nowadays are quite unlike the early swamp buggies. Today, there are several classes ranging from the four-cylinder Jeep class to incredible, boat-like,

go-fast, V-8-powered machines. The tech in these swamp buggies is fascinating and in many ways, one of a kind. We recently published an in-depth (no pun intended) look at Clay Madl's '60 Jeep CJ-6 Jeep-class buggy ("Anatomy of a Jeep Class Swamp Buggy," Sept. '14), and in an upcoming issue, we'll take a detailed look at

Eddie Chesser's go-fast four-wheel-drive buggy. All of these machines are designed to operate in the deep water of the track, and that means, among other things, creative waterproofing. You can read more about how they keep these rigs running in (and under) water in the "Ultimate Waterproofing" story we published in the Aug. '14

issue of *Four Wheeler*.

The Florida Sports Park holds a few swamp buggy races each year, and one of our favorites is the Winter Classic, held each January. This event is a blast and is held at a time when many people have flocked to Florida to flee winter's grip in the northern U.S. and elsewhere, so the timing is perfect. We made the trek

to the 2014 Winter Classic and have documented some of the goings-on here in this story. By the time you read this, the 2015 Winter Classic will be right around the corner (January 24-25), and if you like cool wheeling, we think you'd enjoy it. It's a fun, entertaining, well-organized event that features unusual and intriguing machines.





☞ This photo gives you an idea of how tight the racing is in the Jeep class. It helps to follow close to the vehicle in front to take advantage of the wake created by said machine. Sometimes a rogue wave or two will result in a wall of water crashing over the hood, similar to what happened to Jeep number 215 on the left.

☞ Roy Ortega blasts down the straightaway in his rear-engine, two-wheel-drive Terminator buggy. Unlike the Jeep-class rigs, the drivers in these go-fast buggies sit at the very front of the rig. Oftentimes, they're sharing space with one or more engine air intake tubes.



☞ We amused ourselves by perusing the parking lot at the Winter Classic. It's something we do, and it always pays off when we find something cool. Floridians can be very creative when building swamp buggies. A lot of folks brought their swamp buggies to the Winter Classic, and we spotted this one parked among cars and trucks. In lieu of tires, like a normal swamp buggy, this machine is equipped with tracks. Clearly, there's a difference between a swamp buggy used for backcountry travel and a buggy used for racing, even though they share the same name.

☞ Swamp buggy racing is very unique, and the 5½-foot-deep sippi holes are one of the reasons why. The Jeep-class rigs sink right to the bottom, so more than anything, it becomes a test of waterproofing. Tricks such as using a distributorless ignition system, watertight intake, silicone-sealed components, and ventless axle housings are how some of the racers keep 'em running underwater.



☞ The Winter Classic also had a variety of vendors on hand, offering everything from clothing to vehicle accessories to food. Turkey leg? Yes, please.



☞ Here's the moment of launch during the start of a Jeep-class race. The bright-orange Jeep centered in the pack is Clay Madl's '60 CJ-6. It sports a 134ci F-head four-cylinder engine, BorgWarner T-90 three-speed manual transmission, Spicer 18 T-case, Dana 30 front axle, Dana 44 rear axle, three-link front and rear suspension, hydraulic steering, and custom 40-inch-diameter wheels that are 1½ inches in width. **FW**

## SOURCE

The Florida Sports Park  
239/774-2701  
[thefloridasportspark.com](http://thefloridasportspark.com)







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# GRAND SCORE

## Part 3: Backcountry bound 'n' down

By Ben Battles [editor@fourwheeler.com](mailto:editor@fourwheeler.com) Photography: Ben Battles



**W**HETHER POUNDING PAVEMENT OR LOGGING BACKCOUNTRY MILES, trying to predict the places that work and play will take us is like trying to predict how your bi-polar, schizophrenic buddy is gonna react to the missing ketchup packets in his drive-through value meal. Put plainly, it's anyone's guess. Since affordable hovercrafts have yet to hit the mainstream market, a compromise needs to be struck between on-road comfort and off-road performance. If attempting to create a Swiss Army knife vehicle, the best you can do is to eliminate compromises on either end of the spectrum, and that was precisely our objective with Project Grand Score.

If you've followed the past two installments of Project Grand Score you've seen us transform our nearly new, but very soccer-mom-ish, '04 Grand Cherokee into a capable multi-purpose rig that's able to roll with the punches of our totally random requirements. From hunting, camping, hauling camera equipment around, and any other backcountry odd job we ask of it, our efforts have yet to disappoint us. All told, we

retained the practicality we needed in an everyday driver, but now have the goods that'll let us venture into territory that was previously inaccessible in factory trim.

As a quick recap, the effort that yielded the biggest departure from stock was the addition of an Iron Rock Offroad (IRO) Critical Path 4-inch long-arm suspension, which pairs affordability with great ride characteristics and off-road performance that far surpass a short-arm lift. Compared to the factory suspension, the IRO kit offers an equally plush and compliant ride on pavement, while delivering a pretty drastic difference in wheel travel, bump absorption, and overall comfort levels off pavement. This kit is somewhat unique in the fact that it s#!t-cans the front-right upper control arm altogether in the name of non-binding suspension travel. On road, we can't tell it's missing, but off-road, the uninhibited flex becomes readily apparent.

The additional four inches of height from the IRO kit created enough wheelwell real estate to let our new 265/70R17 (32-inch) General



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Grabber AT2 tires and 17x8.5 AEV Savegre wheels move about their respective openings at will. We still have slight rubbing in the rear at full stuff, but a little trimming on the rear bumper cover should have us squared away in good shape.

Up front we bolted up a stout ARB Bull Bar winch bumper, filled it with a fully waterproof Smittybilt 10,000-pound X2O winch, and topped it with a pair of insanely bright 8,200-lumen ARB Intensity LED lights. Front-end, check. Down low, we fortified our rocker panels with a set of Iron Rock Offroad Premium Rock Sliders, which tuck neatly up into the body and have nothing to snag on. With the built-in tube step, accessing roof-mounted gear is now a snap. To finish off the build and let the 'Merica flow freely out the back end, we mounted a great-sounding Gibson Performance stainless cat-back exhaust system.

So, any complaints? Nope, not really. But there were a couple nit-picky things that warrant mentioning. IRO specifies that the factory lower control arm mounts do not need to be removed from the frame when using its standard control arms. We found this mostly

true, but the upper control arm on the front driver side did kiss the factory mount at full articulation. Instead of buzzing the mounts off altogether, we solved the problem with a small amount of strategic trimming. Not that we'd ever want to, but there's a warm 'n fuzzy feeling associated with the ability to go back to stock if the need ever arose.

The other small gripe is that the Grabber tires do more than grab traction—they also like to grab small rocks and eject them at your lower body panels. Not a big deal, especially now that we have the IRO sliders deflecting most of the incoming fire, but it's worth mentioning if you live on a long gravel road like we do. Also—and this is more of an oversight

than a complaint—with the added lift height and added weight all working towards added body roll around corners, a pair of larger-diameter front and rear swaybars are on our short list of components we still want to add to the Grand.

Attempting to build a rig that'll suit all conditions and requirements is like trying to hunt everything from grey squirrel to African water buffalo with the same rifle—You're going to fall short of your goals on one end or the other. However, with that said, to date, we've been really pleased with our component choices for the Grand Score Cherokee and feel like we've brought enough gun for most situations we'll be throwing at it.



1

**1.** After dialing control arm lengths to perfection and sliding in a pair of ¾-inch coil spacers to counteract the weight of the bumper and winch, our 32-inch Generals now have room to play without rubbing up front. While the missing upper control arm of the IRO long-arm kit goes unnoticed on the road, the lack of creaking and snapping noises from the steering and suspension—along with gobs of wheel travel—lead us to believe its absence pays big dividends off-road.

**2.** The short-arm rear suspension still flexes extremely well, despite still being, well, short-armed. Jeep did an outstanding job of engineering the WJ's rear suspension, and even with four inches of lift, its three-link design will allow more wheel travel than our 32-inch tires have real estate for. So long as mud wasn't involved, the General Grabbers offered impressive traction nearly everywhere. How 'bout that new bumper cover dent?

**3.** The rocker panels are arguably one of the most damage-prone areas on an SUV, so to save ours from getting pounded into submission, we installed a set of WJ Premium Rock Sliders from Iron Rock Offroad. Not only do they protect the entire length of the rockers from rocks, downed trees, and other random trail debris, they're also pretty handy for reaching rooftop cargo. Stout enough to use as a



2



3

jacking point, well engineered, and good looking, they get two thumbs up.

**4.** Having a winch is like having a green card; you can get by without it for a while, but if you need it, chances are you're pretty screwed. Smittybilt's 10,000-pound X2O winch mounted in our new ARB Bull Bar winch bumper gives the freedom of not having to tuck tail and run when the trail turns nasty. The X2O has liberated us from two sticky situations as of writing this and had more than enough grunt to free us each time.



4



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5

5. The perfect multi-purpose rig boils down to the right measures of on-road civility and off-road capability. Since this was our daily driver, we didn't want give up much in the on-road department, and when all is said and done, we didn't. The IRO long-arm suspension and Doetsch Tech shocks give a super-compliant and stable ride, and the General Grabbers are whisper-quiet up to the 80 mph or so we tested them to. We do have a little extra body roll now but nothing a pair of heavy-duty swaybars won't fix.

6. As General intended, the Grabbers thrive on anything hard-packed, which is where they'll spend the majority of their time under our Grand. Traction in dirt is excellent, and with super-predictable slide characteristics, drifting around corners is a blast. Like most all-terrains, they do have a tendency to pick up and eject small rocks, but that's about it for complaints on these tires. We love 'em.

7. The General Grabbers work awesome in hard-pack, but as you might expect from an all-terrain, mud is not their forte. These tires were never designed to be competent in the mud, but if you light the 4.7L V-8's fire under the hood, they actually do clean out surprisingly well. If not, that's what the winch is for. What the Grabbers are lacking in mud traction, however, will be made up for in spades on the snow- and ice-covered roads over the winter.

8, 9. Imagine bombing down a nice straight stretch of fire road at night, when all of the sudden, a sharp S-curve appears in your immediate foreground. Royally screwed, right? Not if you have ARB's 8,200-lumen Intensity LED lights perched atop your bumper, giving you a few-hundred yards of advanced notice. These things are outrageously bright, give a nuclear explosion-level of assistance when needed, and offer a good bit of insurance when roaming moose-country. **FW**

## SOURCES

**American Expedition Vehicles**  
248/926-0256, [aev-conversions.com](http://aev-conversions.com)

**ARB USA**  
425/264-1391, [arbusa.com](http://arbusa.com)

**Iron Rock Offroad**  
877/919-JEEP, [ironrockoffroad.com](http://ironrockoffroad.com)

**General Tire**  
800/847-3349, [generaltire.com](http://generaltire.com)

**Gibson**  
800/528-3044, [gibsonperformance.com](http://gibsonperformance.com)

**Smittybilt**  
888/717-5797, [smittybilt.com](http://smittybilt.com)



6



7



8



9





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# Dollar-smart tow rig upgrades

By **Ali Mansour** [editor@fourwheeler.com](mailto:editor@fourwheeler.com) Photography: Ali Mansour

**P**ROGRESSION IS A DOUBLE-EDGED sword in the off-road hobby. If you're like us, you cut your teeth wheeling your daily driver. As years progressed and the trails you enjoy to attack became increasingly more difficult, you may find your trail toy is no longer the most suitable everyday machine. This is where a tow rig comes into play. We recently sold off a few of our bastard-child 4x4 projects and picked up a Cummins-powered '14 Ram 2500 4x4.

This four-door pickup will serve as more than just as a trail rig hauler. It'll be our daily driver, parts store runner, and yes, even grocery getter. Late-model ¾-ton trucks can be optioned as far as your budget will allow from the factory, but sometimes those factory add-ons can be had for much less money and at a higher quality, from the aftermarket. We're not talking about a fifth-wheel prep group but more along the lines of easy-to-install steps, floor liners, and even bedcovers.



One of the first things we do when we get a new or used truck is drop in a set of floor liners. We are constantly dragging in dirt, which punishes carpet. We're big fans of the WeatherTech liners as they are form-fit for the specific application. The fact that we can easily remove them from the truck and hose them off keeps them looking nice as well.

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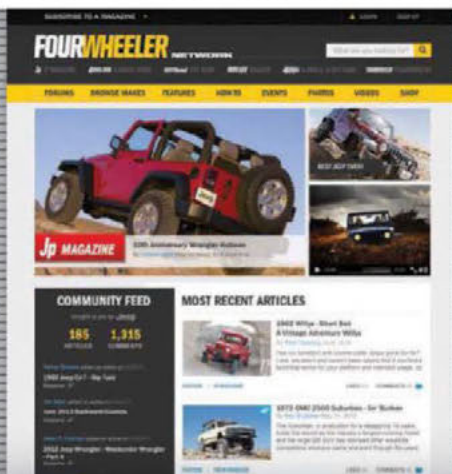
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After owning our truck for a few months, we quickly realized what we needed and what we could live without. So, we spent a few hours browsing Summit Racing online for a host of applicable upgrades. In the end, we ordered a handful of quality products, which not only saved us some coin but offered more function to our Ram. Gathered here are the key items we found to make our tow rig a better all-around truck and how they attach to the rig.

**1.** The '14 Ram has a bevy of interior storage bins. Our WeatherTech rear liner spans the entire length of the rear floor and allows us easy access to the under-floor storage bins.

**2.** If you use your bed for hauling more than groceries, you're going to want to protect it. WeatherTech has expanded its portfolio with a line of bedliners the company calls TechLiners. Essentially, the company uses a similar heavy-duty liner material that you get inside your truck and puts it out back. Included with the TechLiner kit is a tailgate guard and drop-in bedliner.

**3.** To secure the TechLiner, WeatherTech uses a series of adhesive-backed hook-and-loop fasteners. For the tailgate, the liner gets bolted as well.

**4.** Just like the interior liners, the TechLiner is formed specifically for your application. So far, we've hauled a few loads on the liner, and it seems to be holding up well. The surface offers a touch of grip, so most parts don't go sliding around. If you're trying to drag a heavy axle from the back of the truck, we found it will leave a mark, but the TechLiner is easy to clean up.

**5.** Long trips typically require us to move some gear to the bed of the truck. To keep prying eyes at bay, and offer a little element protection, we picked up an Access Tonneau Lorado-series soft tonneau cover from Summit Racing (PN AGI-44179). This low-profile cover is designed to attach inside of the bedrails via a series of four bolt-on clamps per side. A small vise or clamp will be needed to initially fit the rails in place if you are doing the job solo.

**6.** The roll-up-style tonneau is great for when you have to haul larger items. It even comes with integrated straps so you can quickly secure the cover.

**7.** A commercial-grade vinyl is used for the top material and supported with a series of aluminum bows. Access designed the low-profile cover to only stick 1-inch above the bedrails, which makes for a clean look. While we have enjoyed the functionality of the cover, we have found that it will occasionally let water leak in. Don't get us wrong, they aren't large puddles, but we've had a few boxes come out with soggy bottoms.







**8.** Call us old, short, or some other adjective of your choosing, but getting in and out of the new Ram ¾-ton is no small feat. We appreciate the ground clearance, but we're not rockcrawling with our tow rig. To help make the daily vertical transition easier, we added these 5-inch oval tube Lund steps to our Summit Racing order (PN LND-23984003).

**9.** The step support brackets simply attach to the body of the truck. No drilling or modifications to the body are required. The slotted mounts offer slight adjustments of the brackets, which makes assembly extremely easy.

**10.** While Lund has a large variety of step options, we opted for the polished stainless steel versions of the steps. Although, a little on the bling side, we found the steps are easy to clean and match to look of our truck. Lund equips the steps with a grooved five-inch step pad to make sure you don't lose your footing getting in or out of the truck. We especially like that the step sticks out from the truck to keep door-slinging parking neighbors away from our sheetmetal.

**11.** Like most ¾-ton trucks, the stock treads were well-suited for the street, but not so much for the dirt. We wanted something that was competent on- and off-road, so an all-terrain tire made the most sense. We were able to get our hands on a set of Nitto's brand-new EXO Grappler AWT tires in a LT275/70R18 size. This all-weather tire is designed as a jack of all trades. So far, we've been impressed with the low road noise and grip, but we're looking to log some serious miles before we hand in our verdict. Keep your eyes peeled for an in-depth review of the EXO Grappler in the May '15 issue of *Four Wheeler*. **FW**



## SOURCES

**Nitto Tire**  
nittotire.com

**Summit Racing**  
800/230-3030, summitracing.com

**WeatherTech**  
800/441-6287, weathertech.com

## STATEMENT OF OWNERSHIP

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a. Total number of copies.....	194,857	171,630
b. Paid circulation (by mail and outside the mail)		
1. Mailed outside-country paid subscriptions stated on PS Form 3541 .....	105,372	102,164
2. Mailed in-country paid subscriptions stated on PS Form 3541 .....	0	0
3. Paid distribution outside the mails including sales through dealers and carriers, street vendors, counter sales, and other paid distribution outside the USPS .....	14,953	15,902
4. Paid distribution by other classes of mail through the USPS .....	0	0
c. Total paid distribution .....	120,325	118,066
d. Free or nominal rate distribution (by mail and outside the mail)		
1. Free or nominal rate outside-country copies included on PS Form 3541 .....	27,786	25,417
2. Free or nominal rate in-country copies included on PS Form 3541 .....	0	0
3. Free or nominal rate copies mailed at other classes through the USPS .....	0	0
4. Free or nominal rate distribution outside the mail .....	13	0
e. Total free or nominal rate distribution .....	27,798	25,417
f. Total distribution .....	148,123	143,483
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a. Paid electronic copies .....	33,988	40,984
b. Total paid print copies (Line 15c) + paid electronic copies (Line 16a) .....	154,313	159,050
c. Total print distribution (Line 15f) + paid electronic copies (Line 16a) .....	182,111	184,467
d. Percent paid (both print & electronic copies) (16b divided by 16c X 100) .....	84.7%	86.2%
<input checked="" type="checkbox"/> I certify that 50% of all my distributed copies (electronic & print) are paid above a nominal price		

17. Publication of Statement of Ownership will be printed in the January 2015 issue of this publication.

18. Signature and title of editor, publisher, business manager, or owner.

Thomas Slater Date 10/01/14  
SVP Consumer Marketing  
I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).





## CHEVY S-10 SWAPPING

**Q** What is better or easier: To convert an IFS Chevy S-10 4x4 to a solid axle or to convert a two-wheel-drive Chevy S-10 pickup to a solid-axle 4x4? What axle should I use, and what else do I need to complete the conversion?

I like the GM V-6 engines. I want to put a bigger cam into a 2.8L GM V-6 with forged pistons, headers, and the loudest Flowmaster mufflers available. I would trash the TBI and install a carb. Would it be cheaper to put all that into a 4.3L instead? Which engine would I get the best mpg and power from?

**RICHARD SPRING**  
NORFOLK, VA

**A** Cutting off the IFS suspension on a Chevy S-10 and replacing it with a solid axle is quite the task. It requires a lot of measuring, as well as fabrication and welding skills. That said, converting a 4x4 Chevy S-10 to a solid axle would be significantly easier. The transfer case and shift linkages are already in place. You also would not need to mess with the existing rear driveshaft.

Starting with a two-wheel-drive truck will require substantially more thought, fabrication, and swapping. You would need to find a 4x4 transmission and transfer case along with all the shift linkages and driveshafts (front and rear), as well as do all the work to get a solid axle and suspension in place up front.

To do the solid axle swap, you could locate the axle and build all of the suspension brackets yourself, or you could save a ton of time and effort and use solid axle swap brackets from Sky's Off Road Design (sky-manufacturing.com). The Sky's Off Road Design Chevy S-10 Solid Axle Hanger Kit includes a front hanger/crossmember, rear shackle hangers, front shackles, bushings and sleeves for the shackle hangers, and all of the necessary hard-

ware. The spring hanger/crossmember simplifies the installation of a solid front axle swap by locating the axle and suspension.

The Sky's Off Road Design kit allows for a 31.5-inch leaf spring length. This is the same as the '67-'91 solid-axle GM 4x4, Ford, and Jeep Wagoneer. The kit is designed for common 2.5-inch-wide domestic leaf springs such as Rancho (gorancho.com) PN RS44044 for the Jeep Wagoneer. Aftermarket Chevy truck front springs and Jeep YJ Wrangler springs can also be used.

Since the factory S-10 T-case has a driver-side drop, you'll need to use a front axle with a driver-side differential such as a Dana 44 from an '80-'91 Wagoneer, Cherokee Chief, or J-truck. The Cherokee Chief and J-truck axles will be the same width as a GM pickup, but the Wagoneer will be about 59 inches between the wheel-mount surfaces. A 1970s Ford, Jeep YJ, XJ, or TJ axle could also be used depending on the width and lug pattern you are looking for.

As for the 2.8L GM V-6, you are better off not putting any money into it. The Chevy Performance HT 3.4L V-6 was designed as a direct replacement for the problematic 60-degree 2.8L. If your S-10 has the 2.8L, simply drive it into the ground and then swap in a 3.4L. All of the 2.8L components will bolt right up. The bumper is it normally sells for between \$2,000-\$2,500, which doesn't make its 160hp, 194-lb-ft output that appealing. Unfortunately, the 4.3L GM V-6 is a completely different engine. None of your 2.8L parts interchange. Even the bellhousing bolt pattern is different. The 4.3L has more in common with the GM small-block V-8 than the 2.8L. There is a lot more aftermarket support for the 4.3L than for the 2.8L or 3.4L, but if you're going through all that hassle to swap a GM 4.3L V-6, why not get a good used LS1?

## HOW BIG?

**Q** What size spring-under lift should I buy for my '90 YJ? I want to run 35x12.50 tires.

**DAVID W. GREEN**  
VIA FACEBOOK.COM/JOHNCAPPA4X4

**A** There are many different ways to fit 35-inch tires under your Jeep YJ. The fact of the matter is that the YJ has somewhat smallish wheelwells, so going with a big lift kit alone really isn't all that practical of a solution. You'll need a 6 to 8-inch lift to clear the tires cleanly. However, if you are willing to install

a 4-inch suspension lift, a 1 to 2-inch body lift, and trim the fenders a bit, you can fit the 35-inch tires you want. Other options include a small lift and massively trimmed fenders. You can also install aftermarket fender flares with larger wheel openings. I'd recommend using the smallest lift kit possible and fit the tires to the wheelwells with trimming and aftermarket flares or fenders. This will help keep the center of gravity low and keep the steering and driveline angles in check. Also, if you plan to use the Jeep off-road, I'd highly recommend swapping out the factory Dana 35 rear axle. It's a time bomb waiting to go off rolling on 35-inch tires.

## OVERSEAS TJ

**Q** I am a Jeep enthusiast from Scotland in the UK. I have owned three Grand Cherokees, and last year, I bought a '98 TJ primarily for off-roading and mud plugging. Rockcrawling does not exist here in the UK. The TJ was modified for off-road work when I bought it. It has a 6-inch Rough Country lift with some Rubicon Express parts. It has a winch, snorkel, and 35-inch tires, and the transfer case and drivetrain have been modified for the lift. I added a set of Bilstein 5100 shocks that I bought from the States.

The previous owner had changed out the Dana 44 rear axle (standard fitting on all UK TJs) for a Dana 35 with disc brakes and a Detroit Locker (yes, I know what you are thinking). The TJ is running 3.73:1 front and rear gear ratios. The front axle is out of a '99 XJ Cherokee.

I recently broke off two teeth in the rear axle when off-road. I kept hearing a slight clunk, but other than that, the TJ was working well. There was some very thick mud on the trail, and I am sure I heard the locker kicking in when I was belly deep.

I change the fluids each four-wheeling (off-road) session because of all the mud and water I encounter. When I removed the rear diff cover, the two ring gear teeth were in the gloop/oil that came out.

To get to the point, I am replacing the rear axle with a used Dana 44. It has a 3.73 gears. Are the 3.73s good for what I do with the TJ? It is only used on-road to drive to and from



## WHERE TO WRITE

Have a 4x4 tech question you want answered in Techline, drop an email to [editor@fourwheeler.com](mailto:editor@fourwheeler.com) or head on over to our forums at [fourwheeler.com](http://fourwheeler.com). All letters become the property of Four Wheeler, and we reserve the right to edit them for length, accuracy, and clarity. Due to the volume of mail, electronic and otherwise, we cannot respond to every reader, but we do read everything.



off-road sites. The Jeep is not a daily driver. If I go a long distance, I put the Jeep on a trailer.

My wheeling is 95 percent all-terrains with plenty of mud, climbs, descents, and so on. Fuel consumption and highway performance are not important to me.

MIKE WORRALL  
VIA EMAIL

Editor Hazel replies:

**A** Greetings, Michael! I Love hearing from Jeepers outside of the U.S. Thanks for writing.

For starters, allow me to clear up one common misconception about a Detroit Locker ([eaton.com](http://eaton.com)). They engage (lock) under power and stay locked as long as power is being applied. They only disengage when no power is being applied, and there's a torque bias to overcome the springs inside the unit. By torque bias, in this case, I mean one tire travelling faster than the other. So in other words, the locker shouldn't disengage unless you're off the throttle and the vehicle is turning while moving. It doesn't have to be a big turn – just enough to make one tire spin faster than the other. However, the key is it will only disengage when you're off the throttle, not while you're on the power.

All that understood, when you say you were "hearing the locker kicking in while you were belly deep in mud," it's doubtful the noise you heard was the locker engaging and disengaging. More likely what you were hearing was the teeth that broke off your ring gear rattling around inside the axle. Since you're swapping to a Dana 44, it's really a moot point, but I just figured I'd take the opportunity to address that.

As for the gear ratios, I know you said mileage and on-road drivability aren't your primary concern. Still, my recommendation would really come down to whether your Jeep has the three-speed automatic transmission used in '98 or the five-speed manual (AX15) with Overdrive. Ideally, for a 4.0L-powered Wrangler running 35s, I'd recommend 4.56 gears for the best off-road performance. For myself, I've run gearing as deep as 4.88 on a daily driven 4.0L/four-speed auto with Overdrive-equipped Cherokee with 33s. The road speed doesn't suffer as long as you have the Overdrive, and the 4.0L will happily spin near 3,000 rpm above 75 mph on the highway all day long. So your engine speed would be around 3,100 rpm at 65 mph. If that's acceptable, then the 4.56s may be for you.

In a nutshell, I'd recommend 4.56s, but keep in mind it'll be rather expensive to regear both the front and rear axles. It's not just the parts, but the labor involved. Find a good shop in your area that's well versed in setting up gears. You don't want to destroy a brand-new gearset because of an improper installation. You'll be able to reuse your front carrier on the high-pinion Dana 30, so that saves you a little money. On the rear, if the axle you're starting with already

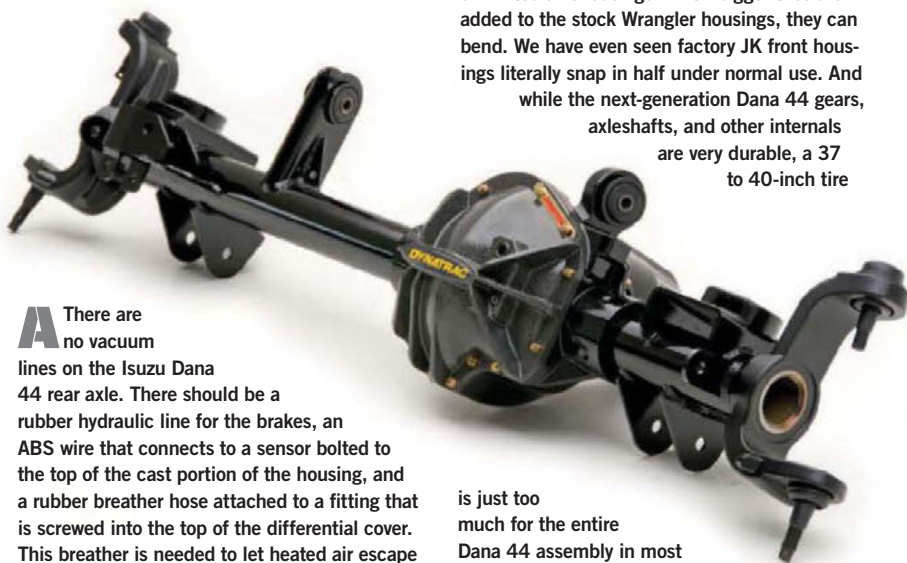
has 3.73-numerically lower gears, then you'll need a new carrier for 3.92-up gears. This probably isn't an issue considering you'll want to put another locker in the rear. If you can afford it, I've had really good luck with the Eaton ELockers, but if you're a Detroit fan, go for what you like. You could also consider a full spool for the rear. They act like a Detroit Locker but without all the drawbacks associated with the Detroit's locking and unlocking. One caveat: Never put a spool in the front axle of a recreational 4x4.

Check out this website for a little more info on the carrier splits and prices: [drivetrainspecialists.com/categories/dana/dana-44/](http://drivetrainspecialists.com/categories/dana/dana-44/).

## VACUUM AXLE

**Q** I have a '97 Isuzu Rodeo, and I have put a used rearend under it from a junkyard. The rear end is a Dana 44 with a vacuum line hookup. My question is, if I buy a replacement cover for the rearend, does it have to have a vacuum line hookup on it? I noticed most of the covers I find do not have a vacuum line hookup. Thank you in advance for your help!

CHRIS BEASLEY  
VIA FOURWHEELER.COM FORUMS



**A** There are no vacuum lines on the Isuzu Dana 44 rear axle. There should be a rubber hydraulic line for the brakes, an ABS wire that connects to a sensor bolted to the top of the cast portion of the housing, and a rubber breather hose attached to a fitting that is screwed into the top of the differential cover. This breather is needed to let heated air escape the housing. It also lets air to return to the inside of the housing as the assembly cools.



In case you were wondering, sealing the axle completely with a new cover and no breather would cause the heated air pressure to build up inside the axle until oil is forced past the seals. You can drill and tap the new cover for a breather fitting in the same location as stock, or you can move the breather to the axletube by drilling and tapping a hole there. Be sure to remove any metal chips from the inside of the housing after drilling and tapping your new breather fitting. If you frequent deep water crossings, attach a hose to your axle and run the line as high up on the chassis as possible. This prevents water from being sucked into the hot axle assembly when quenched during the water crossing.

## JK AXLE AXING

**Q** What do you think of Dynatrac ProRock 44s wheeling 37 to 40-inch tires under a Jeep Wrangler JK Unlimited?

CHRIS GARLAND  
VIA FACEBOOK.COM/JOHNCAPPA4X4

**A** The Dynatrac ([dynatrac.com](http://dynatrac.com)) ProRock 44 axles are a great upgrade over the factory '07-to-present Jeep Wrangler and Wrangler Unlimited axle housings. When bigger tires are added to the stock Wrangler housings, they can bend. We have even seen factory JK front housings literally snap in half under normal use. And while the next-generation Dana 44 gears, axleshafts, and other internals are very durable, a 37 to 40-inch tire

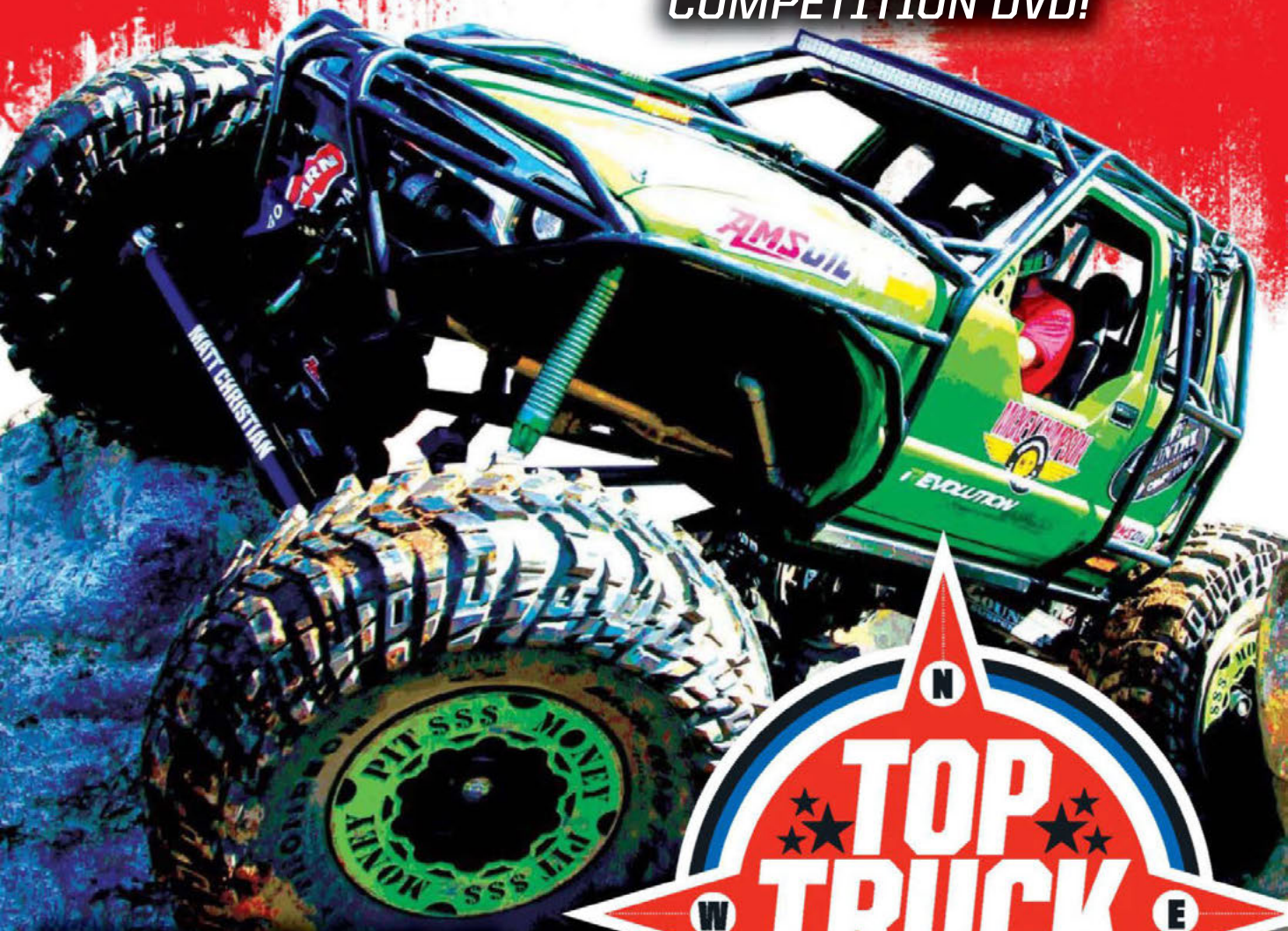
is just too much for the entire Dana 44 assembly in most cases.

The maximum tire diameter I'd be comfortable running on a ProRock 44 is a 35 to 36-inch tire. Ultimately, it depends on how you plan to use the vehicle. If your Jeep is a street-only rig, I think you could make that combination survive. However, if you plan to use the Jeep off-road, especially in the rocks with a front and rear locker combined with a Rubicon T-case, you really need to step up into ProRock 60 axles. The ProRock 60 can better handle the torque load and stresses caused by the weight of the Jeep, large diameter tires, and low gearing. **FW**



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# CALENDAR

COMPILED BY **KEN BRUBAKER**  
KEN.BRUBAKER@FOURWHEELER.COM

## January 1

**What:** Custom Differentials Mud Bash  
**Where:** Bloomsdale, Missouri  
**Hosted by:** Custom Differentials  
**Info:** 573/483-3343,  
custom-differentials.com

## January 3-17

**What:** Dakar 2015  
**Where:** Argentina, Bolivia, Chile  
**Hosted by:** Amaury Sport Organization  
**Info:** dakar.com

## January 23-25

**What:** Winter Fun Festival  
**Where:** Grass Valley, California  
**Hosted by:** California Association  
of 4WD Clubs  
**Info:** cal4wheel.com

## January 24-25

**What:** Winter Classic Swamp Buggy Race  
**Where:** Naples, Florida  
**Hosted by:** The Florida Sports Park  
**Info:** thefloridasportspark.com **FW**



## WHERE TO SEND SUBMISSIONS

Address your correspondence to: **Calendar, Four Wheeler, 831 S. Douglas St., El Segundo, CA 90245, or email ken.brubaker@fourwheeler.com.** All submissions become the property of Four Wheeler, and we reserve the right to edit them for length, accuracy, and clarity. The editorial department can also be reached through the website at [www.fourwheeler.com](http://www.fourwheeler.com). Due to the volume of mail, electronic and otherwise, we cannot respond to every reader, but we do read everything.

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## ROUGH COUNTRY

		- Shocks included	
11-15 4WD GM 2500HD, 3500HD NTD	7.5"	\$1,399	
01-10 4WD GM 2500HD/01-06 1500HD	6"	\$1,295	
2014 GM 1500	3.5"	\$479	5" & 7" \$1,199
07-13 4WD GM 1500 3.5"	\$429	5" and 7.5"	\$999
99-06 4WD GM 1500 Non torsion drop	4" or 6"	\$999	
99-04 4WD Super Duty	4"	\$809	6" \$879
05-14 4WD Super Duty	4"-4.5"	\$649	6" \$799
4WD F150 97-03 4"-5"	\$999	04-08 4"	\$1,299
F150 09-13 4"	\$1,299	6" \$1,399	14 4" \$1,199 6" \$1,299
03-13 4WD Dodge 2500 5"	\$699	5" X-Series	\$899
84-01 Cherokee XJ 3"	\$255	4.5" \$459	6.5" \$809
97-06 Wrangler TJ 4"	\$499	6" X-Series	\$1,049
07-14 Wrangler JK 2.5"	\$139	4" \$499	6" \$1,339
07-14 Tundra	4"	\$1,249	6" \$1,299
FJ Cruiser 3"	\$249	6" \$1,279	Titan 6" \$1,199

## RANCH

		- Shocks sold separately	
4WD GM PU 2500HD	01-10 4"	\$1,685	11-13 4" \$1,849
4WD Dodge 1500	06-07 4"	\$1,849	09-14 4" \$1,699
Dodge 2500	09-10 4"	\$1,122	10-13 4" \$1,022
4WD Super Duty	08-10 4"	\$1,308	11-14 4" \$1,240
Wrangler 97-06 3"	\$749	07-14 3"	\$640 4" \$799

## READYLIFT

11-15 GM 2500HD, 3500HD	4"	\$1,299
2007-14 GM 4WD Pickup 1500 1"-2.25"	\$229	4" \$999
09-14 284WD Dodge Ram 1500	2.5"	\$449
09-13 4WD Ram 2500, 3500	5"	\$1,699
F250 Super Duty 05-10 2.5"	\$569	08-15 5" \$1,069
07-14 JK Wrangler	3"	\$499 4" \$699
05-12 Frontier 2.5"	\$329	04-13 Titan 1.5" \$229
05-13 Tacoma 2.75"	\$339	07-14 Tundra 4" \$999

## FEUTEK

		- Shocks included	
03-08 4WD Dodge 25/3500	4.5"	\$1,352	6" \$1,382
10-13 4WD Dodge 25/3500	4.5"	\$1,309	6" \$1,382
05-14 4WD Super Duty	4.5"	\$1,055	6" \$1,185

## TRAXDA

		- Shocks sold separately	
99-14 284WD IFS GM Pickup	1"-3"	\$57 to \$140	
Dodge 4WD 1500 02-05 2"-3"	\$139	06-14 2"	\$129
2014 Dodge 2500 / 13-14 3500	2.5"	\$230	3.5" \$372
97-14 284WD F150	2"-3"	\$110 to \$139	
F250, F350 05-10 2.5"	\$129	11-15 2.5"	\$149
Tacoma, Tundra 3"	\$155	FJ Cruiser 3"	\$155

## SUPERLIFT

		- Shocks included	
73-87 4WD GM 4"	\$399	6" \$479	8" \$819 12" \$1,199
07-13 Chevy, GMC 1500 pickup	6"	\$1,199	8" \$1,399
2014 284WD Chevy, GMC 1500	8"	\$1,399	
88-10 Chevy, GMC 8-Lug	5-7.5"	\$1,099 to \$1,199	
09-14 4WD Dodge 1500	4" & 6"	\$1,499	
4WD Dodge 03-13 2500 03-12 3500	4"	\$899	6" \$959
98-10 4WD Ranger	3"-4"	\$1,399	
F150 70-79 4"	\$427	6" \$659	80-96 4" \$599 6" \$649
F150 4WD 97-08 4"	\$1,399	09-14 6"	\$1,399
00-04 4WD F250, F350 4"	\$815	6" \$879	8" \$1,064
05-10 4WD F250, F350	4"	\$869	6" \$869
11-15 4WD F250, F350	4"	\$716	6" \$949
Wrangler 97-06 4"	\$619	07-14 2.5"	\$349 4" \$749

## SKYJACKER

		- Shocks sold separately	
4WD GM 8-Lug	11-15 7"	\$2,060	01-10 6" \$1,763
2014 4WD GM 1500	4"	\$1,302	6"-7" \$1,475
4WD GM PU 6-lug	99-06 6"	\$1,573	07-13 6" \$1,545
4WD Dodge 1500	06-08 4"	\$1,139	09-14 4" \$1,663
03-13 4WD Dodge 2500	3"	\$567	5" \$1,361
F150 6" 97-03	\$1,772	04-08	\$1,957 09-14 \$1,399
08-10 4WD Super Duty	2"	\$340	4" \$842 6" \$974
11-14 4WD Super Duty	2"	\$340	4" \$814 6" \$870
Tundra	99-06 3"	\$364	07-14 6" \$1,299
97-06 Wrangler TJ	2.5"	\$387	4" \$499 6" \$1,900
07-14 JK Wrangler	4"-5"	\$615	6"-7" \$2,319

## TOE

		- Shocks included	
GM 8-lug pickup	01-10 6"	\$1,295	11-15 5" \$1,399
2014 4WD GM Pickup 1500	4.5" & 6.5"	\$1,195	
07-13 284WD Chevy 1500	4.5" & 6.5"	\$1,295	
12-14 4WD Dodge 1500	4"	\$1,409	6" \$1,519
09-11 4WD Dodge 1500	4"	\$1,569	6" \$1,699
03-12 4WD Dodge 25/3500	5"	\$770	8" \$1,329
F150 04-08 6"	\$1,399	09-13 6"	\$1,549 2014 6" \$1,299
Super Duty	99-04 4"	\$809	05-15 4" \$799
84-01 Cherokee XJ	3"	\$290	4.5" \$495
97-06 Wrangler TJ	3"	\$459	4" \$529
07-14 Wrangler JK	3"	\$439	4" \$575 5" \$1,299
07-14 Tundra 5"	\$1,299	05-13 Tacoma 6"	\$1,249

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		- Shocks sold separately	
4WD GM 2500HD	11-15 6"	\$2,172	01-10 4" \$1,180
4WD GM 1500	07-13 4"	\$694	2014 4" \$589
07-13 4WD Dodge 25/3500	4.5"	\$745	6" \$631
09-14 4WD F150	2"	\$182	3" \$551
4WD Super Duty	05-07 6"	\$1,196	08-15 6" \$812
Tundra 99-06 4.5"	from \$1,255	07-14 6"	\$1,875
Tacoma 6-lug	95-04 5"	\$1,498	05-14 6" \$1,299

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		- with Bilstein shocks	
07-13 GM 1500 PU 6"	2WD	\$1,949	4WD \$2,119
01-10 4WD GM 8-lug Pickup	6"	\$1,968	
F150 4WD 97-03 4.5"	\$1,700	04-08 4.5"	\$2,699
4WD Super Duty	05-10 4"	\$1,450	08-10 6" \$2,400
Tundra	99-06 4"-6"	\$2,600	07-13 4"-6" \$2,350

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		- Shocks included	
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2014 284WD GM 1500	4"	\$720	6" \$1,599
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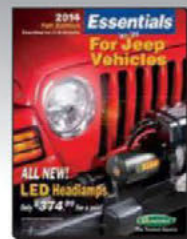


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## Winter Wheeling For The Win!

If you had to choose between winter or summer wheeling, which would you pick?

We asked you that question on our social media sites back in June, and as of press time, 115 of you commented on that question on our Facebook site. The vast majority of you that directly answered the question chose winter wheeling. Surprised?

The reality of winter wheeling depends on what region of the country you live. Wheelers in the southern U.S. think of winter as a time when temperatures moderate and they can wheel without battling bugs, heat, and dehydration. Scott Plude (all names are printed as they appear on Facebook) said, "Gotta love the winter wheelin'. Most of my rigs don't have working A/C, and I live in the desert. It was 109 [degrees] at my house yesterday."

Up north, or in high altitudes, the reality of winter is much different, and most of those

that responded from those areas noted less about temperatures and more about the benefits of wheeling in snow. Jamie Hanson left no doubt as to his view on snow versus no snow when he wrote, "Winter every time. It's easy to prepare for the cold; you can only take off so many clothes and still be hot, and dust sucks, so I'll take snow, snow, snow, and more snow."

Some readers pointed out that wheeling in snow requires skills not found when wheeling on other types of terrain. Jason Mein said, "Winter for sure. No dust, and it takes a lot more skill—anybody can drive down a dirt road. Throw some snow on the road/trail, and it totally changes it." Shawn Allen got six "likes" when he said, "Anyone can wheel in dirt. Snow is a completely different animal."

And then there are those who pointed out the practical aspects of wheeling in winter.

Josh Theeck likes that his truck stays clean. "Definitely winter wheeling; there's no need to wash it when you're done," he said. Jarrett Rathert echoed Josh's thoughts when he said, "I love snow. And it's a lot easier to clean than mud. Helps I live in Canada where it's winter half the year." John Jr. Udlaovak of Cambridge Bay, Nunavut, Canada, offered the ultimate practical argument for winter wheeling in his neck of the woods when he said, "Winter! Because we can travel on ice roads out of the bay."

We love winter wheeling. The *Four Wheeler* Midwest Bureau is located near the Illinois-Wisconsin state line and this area gets a decent amount of snow each winter. Sometimes we'll just hop in our 4x4 and head out into the untouched snow of the pastures or unplowed dirt roads and explore. We agree with the Facebook commenters who said that snow adds an element of challenge. We've found that even the most mundane trail or obstacle can become an animal when covered in ice and snow. The benefits of spending time puttering around in the snow are a better understanding of your rig's capabilities and an increase in winter driving skills. However, our 4x4s are less toys and more tools in the winter. It seems like we're either plowing snow, fighting to get through drifted roads, or recovering stuck vehicles.

All of this is fun stuff, and it helps make the cold days and lack of daylight bearable. Our only gripe is that here in northern Illinois, road salt is spread thick on the roads. This means it's a non-stop battle to keep the rigs clean, underneath as well as outside, in an effort to stop corrosion. It's amazing the damage road salt can do to a vehicle, even when it's only used for about four or five months of the year. But that's a topic for another column.

Those of us who love winter wheeling get excited about products specifically designed to make 4x4s work better in winter, like the Cooper Discoverer A/TW tires that we highlighted elsewhere in this issue. We also get excited about vehicles with decent ground clearance, because more clearance means a vehicle can navigate deeper snow without getting hung up on its belly. That means less digging with a shovel for us.

Winter wheeling is a blast, and it's right around the corner. Get out and wheel it. **FW**

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